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Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY

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TELEPHONE CENTER

Michigan Bell's Wm. F. Dunn (left) and Airlines Terminal Corp.'s R. E. Larson worked together to plan Willow Run airport's new telephone center, which includes 15 jumbo-size special booths. Story on page 50.

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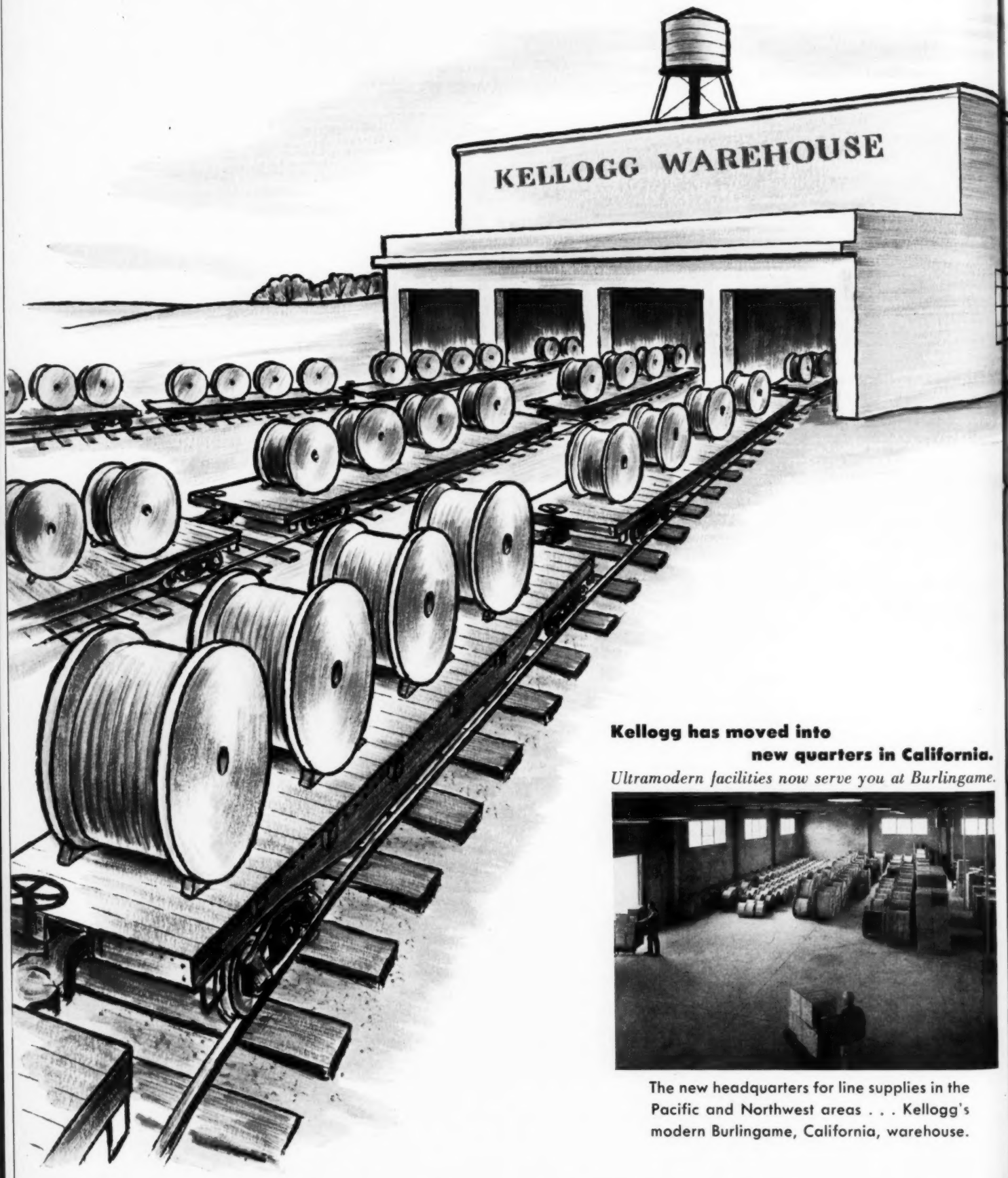

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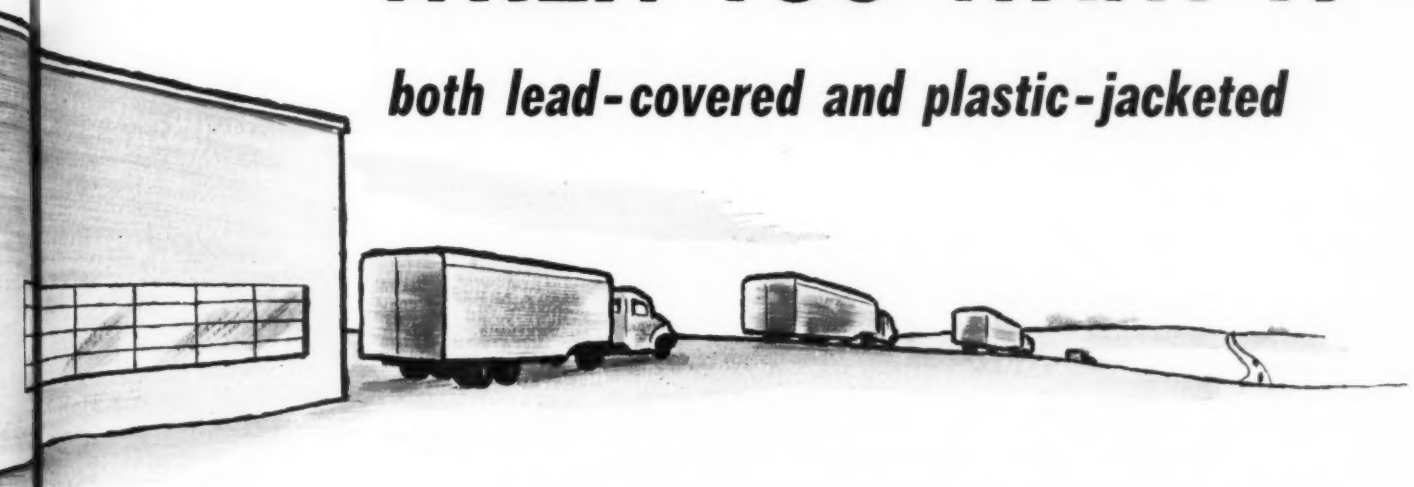

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FLASHES AND PLUGS

HELPING HAND. Before you have finished reading this sentence, at least 15 people somewhere in the United States will have dialed O on their telephones and asked the operator for help, AT&T's *Long Lines* magazine stated recently.

It is a standard reaction in cases of fire, illness, a hovering stork, or emergencies of a thousand different kinds. It has been estimated that Americans make more than 60 billion telephone calls a year, of which perhaps 15 million are from people in distress. Many are literally matters of life and death.

An operator in the Chicago region, according to an article in *Woman's Day* illustrating this point, recently heard a man choking and fighting for breath. It seemed that his bedroom was full of fumes from a defective stove. He gasped that he had reached a window but was too weak to open it, or to get to the door. The quick-witted operator advised him to throw the telephone through the glass. He did . . . and lived.

•

SELF DEFENSE. The parents of a teen-ager had for her convenience a second telephone installed in her bedroom. She was touched by their thoughtfulness but continued to use the family telephone as before.

One night after she had called up a school friend and had talked happily and at random for over half an hour, the father rose to protest. Why, he enquired, didn't she use her own telephone upstairs?

The daughter was startled by such adult obtuseness. "Why," she explained in logical detail, "if I used my telephone and some one tried to call *me*, the line would be busy."

•

STILL DELINQUENT. For four days in a row, a medical secretary in La Mesa, Cal., telephoned the number a delinquent patient had listed as his home number. She got no answer. On the fifth day, she hung on and soon came the noise of sirens and a breathless voice answered the telephone.

The secretary, it seems, had been dialing an unlisted number known only to the nearby fire department and the state forestry station—which trips an automatic alarm calling out a volunteer fire department.

•

ANY OLD PORT IN A SALE. The indispensability of the telephone is widely conceded, but its general, all-around versatility might well also be stressed, indicates a clipping forwarded to us by George A. Schumacher, secretary-treasurer of the Indiana Telephone Association.

Reported the *Indianapolis News* on May 23: "Either as the result of confusion, or because all of the dressing rooms were in use, a woman used a telephone booth Tuesday to try on a house dress during a sale in a downtown department store."

CHANGE OF ADDRESS

Please notify your local postmaster and Circulation Dept. of TELEPHONY of change of address. Change cannot be made without the old as well as the new address. Allow three weeks for change of address to become effective.

Telephony

THE JOURNAL OF THE TELEPHONE INDUSTRY
Since 1901

June 1, 1957

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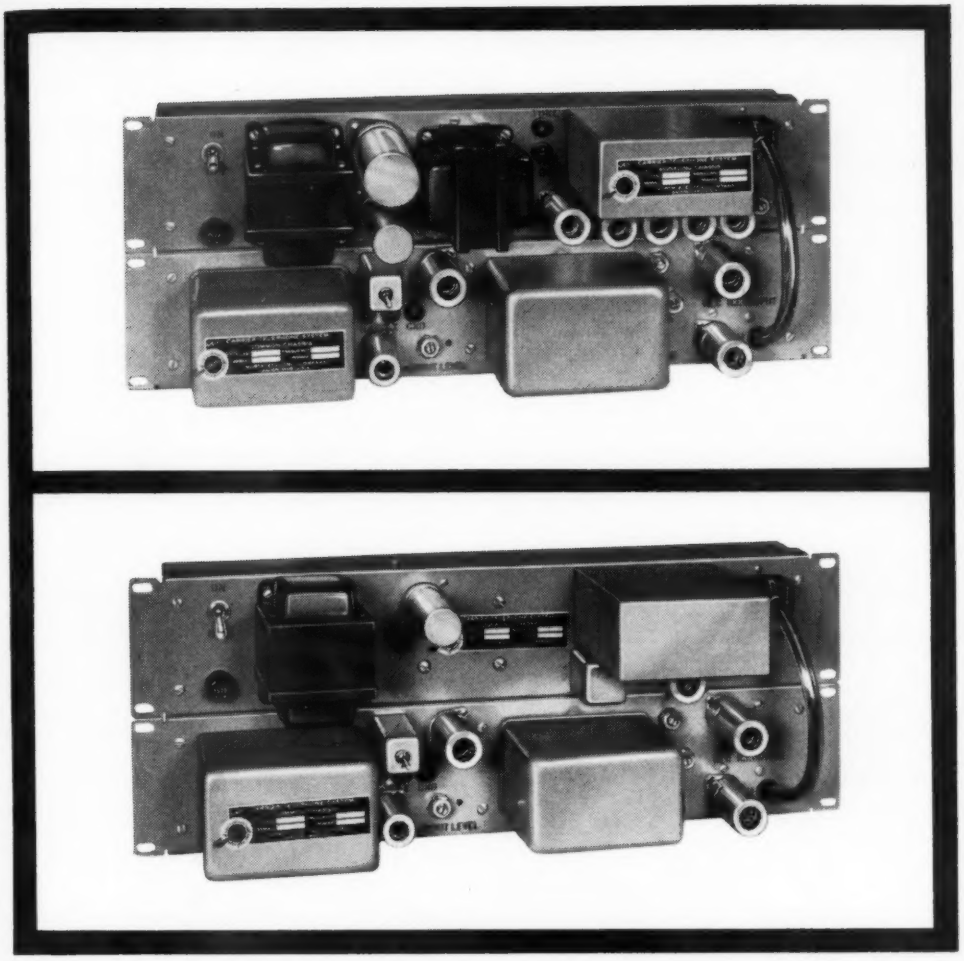

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Photograph by Harold Halma

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An eloquent tear

Across the page we are reproducing in full a current Bell System advertisement which millions will see this month in national magazines. The ad is about a tear on a little girl's cheek, and about the part that telephone calls can play in brightening lives.

We believe that every telephone man and woman in America had a share in creating this warm and human advertisement. For behind the picture and the words there is a fact we can all be proud of—the priceless comfort of the telephone service we offer.

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As a result, AMCRECO'S technical skill and experience, developed through half a century of serving the largest users of treated wood, is now reinforced by Union-Camp's resources.

Convenient plant locations, extensive resources and experienced personnel have been teamed to provide you with a new standard of service and dependability. This will be reflected in modernized facilities, improved deliveries (from stock in many cases) and careful attention to your specifie requirements.

Let us show you how this new organization can be of help to you.

Time is Our Best Testimonial

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IN THE NATION'S CAPITAL

BY FRANCIS X. WELCH, WASHINGTON EDITOR

FCC proposes to permit telephone companies use of certain exclusive radio frequencies in 450-460 Mc band. . . . Microwave radio hearing on now. Senator moves to protect federal regulatory commissions against "leaks" of information. FCC may give pay-as-you-see TV a trial run.

THE FEDERAL Communications Commission (FCC) has proposed to permit telephone companies to use certain exclusive radio frequencies opposed by other utility and industrial groups also using radio communications for industrial purposes. Early last year, the FCC had issued a proposed order providing for three pairs of frequencies in the 450-460 megacycle band for use by telephone companies on a shared basis with other industrial users. These frequencies were not to be used in public telephone communication services, but for the intra-system communications, such as construction and maintenance. Last October, upon objection of other industrial users, the order was "stayed."

Now, the commission has decided that "the inherent need of the telephone industry for a number of exclusive channels" requires making exclusive frequencies available for both telephone companies and other industrial users. The commission proposes to reduce channel spacing so as to double the number of frequencies available for assignment. Specifically, it proposes to assign five frequency pairs (10 frequencies) in the 450-460 megacycle band for use exclusively by telephone companies as well as to establish a "Utilities Radio Service."

What the commission did in this case is a little technical, and may be hard to follow through the procedural steps. The argument is not all over yet, by any means. But the commission has "terminated" the original case, which arose last year about assigning telephone companies shared frequencies with other utilities in the 450-460 megacycle band. The FCC has taken care of telephone companies even more liberally under another proceeding (Docket No. 11991), under which it proposes to set up a new "Utilities Radio Service," which is a change of name from the old "Power Radio Service."

Under the old set-up, public utilities other than telephone companies were allowed radio frequencies for system communications and telephone companies wanted to share these frequencies on the same basis. Under the new setup, telephone companies—"communication common carriers"—will be eligible to use five exclusive pairs in the 450-460 megacycle band.

Some possible line on the commission's attitude on policy in this matter, may be seen in the following excerpt from its opinion handed down in the so-called "proposed rule making" order (Docket No. 11991), in which it said in part:

"It has long been recognized by the Commission that communication common carriers (telephone companies) have need for radio facilities in connection with construction and maintenance activities. Thus, by Report and Order of Sept. 19, 1956 . . . in Docket No. 11435, the commission made communication common carriers eligible in the Power Radio Service and gave them access to a total of three 100-kilocycle frequency-pairs in the 450-Mc band, such frequencies, of course, to be assigned only for developmental operation and to be shared with other radio services.

"In providing the above three pairs, the commission recognized that it was not meeting the stated requirements of the common carriers, but declared a belief that the three pairs would meet the present requirements of such carriers. For reasons stated in a Memorandum Opinion and Order being released simultaneously herewith, the commission is therein withdrawing the foregoing Report and Order, is withdrawing its associated Notice of Proposed Rule Making, and is terminating that entire proceeding; these actions are predicated upon a decision to repropose in the instant proceeding a limited eligibility of the communications common carriers in the Power Radio Service (new name Utilities Radio Service).

"Although the above-described need of the communications common carriers has not been seriously challenged, it has been strongly contended that the commission should not attempt to satisfy this need by including the carriers as eligibles under the Power Radio Service Rules. The foregoing contention is grounded, principally, in considerations relating to frequency congestion and coordination of frequency usage within the Power Radio Service. To date, however, there has been no effective challenge of the basic premises pointing to the propriety of our classifying carriers (telephone companies) with gas, electric and water companies. These premises can be summarized as follows: (1) The public's access to a communication service is a convenience of the same general importance as its access to gas, electric and water services. (2) Carriers normally serve the same general areas as do gas, electric and water companies. (3) The over-all characteristics of the carriers are similar, in many respects, to those of the above companies.

"As has been above suggested, the commission does not propose to make all of the frequencies which will be allocated to the Power Radio Service available to the communication common carriers. Based upon the inherent need of the telephone industry for a number of exclusive channels, the commission believes that the most satisfactory arrangement can be effected by making available to the carriers a total of five 50-kilocycle frequency-pairs (10 frequencies) in the 450-Mc band on a non-sharing basis. To assure such exclusivity (sic) *ab initio*, the commission has selected these frequencies from those being obtained by the reduction in channel separations in this band. In connection with this question of frequency availability, the commission believes that the carriers can satisfy their additional frequency requirements by taking advantage of their eligibility in the Business Radio

Service should the simultaneous proposal with respect thereto be finalized."

Aside from discovering a new word "exclusivity" (probably means "exclusiveness," but you never can tell for sure these days), it should be noted that the FCC is here attempting to provide for telephone companies' radio frequencies needs only with respect to their own intrastate operations, such as construction and maintenance. It does not decide the petition filed on Oct. 7, 1955, by the Bell System for additional space in the 60-600 megacycles for use by telephone companies in connection with domestic public mobile service.

The FCC also proposes in another procedure (Docket Nos. 11994 and 11995) to make available use by telephone companies some additional facilities in the 152-162 megacycle and 450-460 megacycle bands for general and dispatched radio communication services under so-called "Domestic Public Land Mobile." These frequencies can be used also for interexchange and interoffice and rural subscriber use.

In still another proceeding (Docket No. 11990), there is a more questionable proposal by the FCC, from a telephone industry standpoint. It is proposed to establish a "Local Government Radio Service." Under this division, frequencies would be available for cities, states, towns, and other political subdivisions to establish government system communications to handle all types of administrative messages as well as emergency communications.

The Microwave Hearings

Perhaps the most important of all these allied radio frequency hearings is the one going on right now on microwave radio. This involves a general allocation of frequencies above the 890 megacycle band. About 70 different parties, including both Independent and Bell telephone companies, have filed requests to present witnesses. And, as previously stated in this department, the Justice Department is very much interested in these proceedings.

Another important radio frequency proceeding before the FCC, one which involves about the same general review of regulatory policy as the mocrowave hearings, is the radio frequency allocations in Docket No. 11997, which will cover the entire range from 25 to 890 megacycles. While this goes over the same vital issues and fundamental questions raised in the microwave hearings, the 20-890 megacycle case is not expected to come to the point of actual hearings before the FCC for some time.

The last general review of the radio frequency spectrum in this area (25 to 890) by the FCC was conducted in 1944. So, it will take considerable time and preparation to work out a detailed agenda and time schedules for any new over-all revision by the FCC.

But getting back to the microwave hearings, the FCC intends to obtain information to enable it to determine (1) whether more efficient utilization can be made of this part of the spectrum; (2) what are the long-range requirements of existing and potential users; (3) what system or systems of frequency allocation for the future would best serve the public interest; (4) what are the requirements of non-governmental radio service, and (5) whether it is feasible to make long-range plans for the future use of the radio spectrum and in particular to determine the impact, economic and otherwise, upon users of the spectrum and the general public, and how such future changes, as may appear to be desirable and in the public interest, can be put into effect. All these issues turn on policy questions which are very important to the whole future of radio to the telephone industry.

As for the new proposed authority in Docket No. 11991, dealing with the ten frequencies in the 450-460 megacycle band, the proposed order of the commission is still subject to comment by any interested person who files written data with the commission on or before June 10, 1957. It will probably be considerably later in the year before the proposed rule making becomes finally established, and even then there is likely to be an appeal.

Protecting Commissions

Senator Jackson (D., Wash.), acting chairman of a Senate investigating sub-committee, is very much disturbed over leaks of unauthorized information from federal regulatory commissions with respect to cases still under advisement. Jackson's group is investigating an alleged advance leak of a decision by the Civil Aeronautics Board (CAB) authorizing Northeast Airlines to extend routes from New York to Florida. Somebody tried to make a stock market killing on the information. But Jackson says that all federal regulatory commissions ought to be given protection in this matter.

The Washington senator proposed criminal penalties for "leaks" after Chairman Durfee of the CAB testified that confidential information has filtered out of his agency in at least three cases in the past 10 months. Durfee said some of the cases involved millions of dollars. He said one has been referred to the Justice Department for investigation.

Jackson said he will ask other government regulatory agencies whether they have been troubled by leaks, what they have done about them, and their suggestions for legislation. Jackson also backed a suggestion by Durfee that Congress should make CAB members and heads of similar agencies immune from "pressure" about pending cases, just as judges are supposed to be. "That's something that has been needed in this city for a long, long time," Jackson remarked. He said it should cover not only the CAB but other agencies, including the Interstate Commerce Commission, FCC, the Federal Power Commission, and the Securities and Exchange Commission.

Jackson said the investigation will be continued until the sub-committee gets a complete picture of leaks of secret information from government agencies, such as the CAB. Several witnesses already have testified that leaks on secret CAB decisions long have been almost routine. "I'm confident there have been instances in other agencies, under both Republican and Democratic administrations," Jackson said. After decisions of these agency leaks, he said, it not only can lead to stock market speculation, but also can result in pressure on the agency to reverse a decision before the final announcement.

May Give Toll TV a Try

Last week the FCC decided, after over a year of hemming and hawing, that it does have the authority of Congress to permit so-called pay-as-you-see television if it finds it in the public's interest to do so. This does not mean that the commission has actually *decided* to authorize any such system of permitting television broadcasts to be operated on a subscription basis without benefit of advertising sponsorship. But it probably means that the FCC is finally getting ready to take the plunge. It will probably start out by authorizing those seeking permission to operate on a pay-as-you-see television basis to make a trial run of it.

The commission called for information by July 8 from broadcasters and sponsors of toll TV to determine how the new system could be given a trial run. Under subscription television, viewers would pay a fee to see programs on their home screens. The station transmitting the program would scramble the sound signal and the picture so that it would not be available to the general viewing public without a special "decoder."

The question of whether the FCC had the legal right to authorize coin box television has bothered the commission for years. The National Asso-

(Please turn to page 38)

REA Loans Totaling $5,801,000 Approved

Four new borrowers were included among the nine telephone companies and cooperatives which received loans from the Rural Electrification Administration the week of May 12, the U. S. Department of Agriculture announced. The loans totaling $5,801,000 will finance improvement and expansion of systems in Arizona, Arkansas, Kansas, Louisiana, Mississippi, Montana, Texas and Wisconsin. More than 10,000 farm families and rural establishments will have dial service as a result of the loans. Details follow:

Pea Ridge (Ark.) Telephone Co.; $380,000, first loan (May 13).

The borrower will use the loan to furnish dial service for 507 farm families now without telephones and for 336 present subscribers. One hundred and sixty-eight of the existing subscribers receive dial service now and the remaining 168 receive magneto service from the Seligman (Mo.) Rural Telephone Co. The Pea Ridge company plans to acquire the Seligman telephone properties.

The borrower expects to expand the present automatic facilities at Pea Ridge, and construct a new automatic central office at Seligman. Service without toll charge between the two exchanges is proposed.

Floyd T. Wilson is president and manager of the Pea Ridge Telephone Co.

•

Gorham (Kan.) Telephone Co.; $101,000, third loan (May 13).

With these funds, the borrower will furnish dial service to 32 farm families now without telephones, and improve service for 106 farm families presently switched by the Galatia Telephone Co. The Gorham company proposes to acquire the Galatia properties consisting of a magneto central office and approximately 3 miles of line.

A new automatic central office is scheduled at Galatia. The acquired line will be retired. The 106 switchers plan to abandon their line and become regular subscribers of the borrower.

The three loans to the Gorham company total $426,000 with which it will be able to offer new and improved service to 1,018 rural subscribers. The system will consist of 457 miles of line and four exchange areas, Galatia, Gorham, Olmitz and Victoria. The Gorham exchange is in operation.

George W. Murphy is president and manager of the Gorham Telephone Co.

•

Star Telephone Co., Maringouin, La.; $140,000, fifth loan (May 13).

The borrower plans to use these funds to expand its operating area to provide new and improved service to 319 rural subscribers, including 153 farm families. As a nucleus for the new service, the Star company proposes to acquire the facilities of the Cheneyville Telephone Co., which furnishes dial service over 25 miles of line.

New and larger automatic facilities are planned for Cheneyville.

A portion of the loan will be used to reimburse the borrower for general funds expended on the acquisition and integration of 24 miles of the Bell-Baton Rouge toll line.

REA loans to the Star company total $686,000 to provide new and improved service to 1,585 subscribers, consisting of 264 miles of line and five exchanges. The Innes, Livonia, Maringouin and Rosedale exchanges are all in operation serving over 1,100 subscribers. Cheneyville is the fifth exchange area.

Louis J. Peranio is president and manager of the Star Telephone Co.

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Smithville (Miss.) Telephone Co., Inc., $174,000, first loan (May 13).

The borrower plans to use these funds to serve 238 farm families now without telephones, and to furnish improved service to its existing 124 subscribers. At present the Smithville company furnishes magneto service, practically all of which will be rebuilt.

A new automatic central office is scheduled at Smithville.

A. L. Young is both president and manager of the Smithville Telephone Co.

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Three Rivers Rural Telephone Cooperative, Fairfield, Mont., $1,298,000, second loan (May 13).

The borrower plans to use these funds to furnish telephone service to 1,223 farms and ranches. It will construct automatic central offices at Carter, Dubuyer, Geyser, Pendroy, Pondera, Raynesford and Sand Coulee. Present plans include service without toll charge between Pondera and the town of Conrad.

The two loans to Three Rivers, totaling $2,023,000, will make possible new and improved service to 2,457 subscribers. The system will consist of 12 exchanges. The Augusta, Fairfield, Ft. Shaw, Power and Simms exchanges are in operation serving approximately 900 subscribers.

Merrill C. Plummer is president of the Three Rivers cooperative and Mark R. Curtiss is manager.

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Kizer Telephone Co., Inc., Rising Star, Tex.; $545,000, first loan (May 13).

The borrower plans to furnish service for the first time to 471 rural families and to improve service for its 759 existing subscribers. At present, the Kizer company is providing dial service through central offices at Rising Star and Cross Plains.

The present automatic central offices will be expanded.

The company owns all of its toll trunk facilities and will expand them. Service without toll charge between Rising Star and Cross Plains is included in present plans. A portion of the loan will be used to refinance the borrower's outstanding indebtedness.

Edgar O. Kizer is president and manager of the Kizer Telephone Co.

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Rib Lake (Wis.) Telephone Co.; $35,000 second loan (May 13).

(Please turn to page 46)

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Experiments with a cathode ray oscilloscope were made in different parts of the telephone plant. On a local test desk it could be used to measure phase relations and hence transmission conditions on a customer's line. The author (left) and W. C. Gilmore made these tests. (Photos by Louis Landman.)

Use of the Oscilloscope in Telephony

By **HAROLD B. McKAY, TELEPHONY'S Electronics Editor**

PART I

THE CATHODE ray oscilloscope has not been regarded as a telephone tool in the past. Its use has been largely in the radar, radio and television fields. In these areas the instrument has proved of great value because of its ability to display wave shapes. Wave shapes are of prime importance in television and radar. But, they are also becoming important in the telephone field.

In a sense, one might say that the oscilloscope has a big value in that it enables one to "see" what the electricity is doing. Although this isn't technically correct, the scope does present its information as a kind of picture, and a picture is easier to understand than words or meters.

This fact alone would sooner or later prove in the instrument as a necessity in a telephone office, because, today, management must supply instruments which make up for the lack of skill and experience in personnel. To prove in any industrial sale, it must be shown that the new device can be used to do a job better or cheaper than present methods.

The scope would qualify on these grounds alone, but other circumstances dictate that this instrument will someday be a familiar sight in nearly every telephone office. First of these circumstances is the advent of the data transmission circuit. These are telephone or telegraph lines which transmit messages to IBM machines or similar computers, or which handle SAGE circuits.

Circuits of this sort are particularly sensitive to distortion caused by phase shift or envelope delay, and to impulse noise. The problems of data handling circuits will be dealt with in another article now being prepared, but it can be said here that troubles from impulse noise ordinarily don't bother people talking on a line; in fact some impulses may be too short to be heard. However, these things can cause errors in data transmission, such as showing a false target on a SAGE circuit.

Noise of this sort does not show up on regular transmission measuring or noise measuring test sets. The meters in these instruments move too slow; only a scope will show up the trouble.

New Uses

As more electronic equipment enters the telephone plant, more uses for the oscilloscope appear. The Bell System now furnishes its subsidiaries a series of scope tracing photos which can be used to shoot trouble in single frequency signaling apparatus such as 1,600 or 2,600-cycle sets. These diagrams are similar to those furnished by some television receiver manufacturers to show the normal wave pattern which should be expected on a scope which is probed into different parts of the TV set.

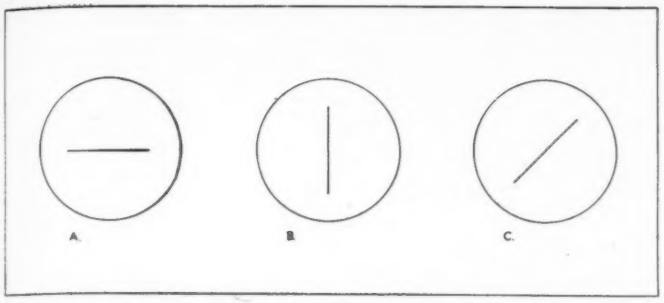

Fig. 1.1. (A) An alternating voltage applied to the horizontal plates produces a horizontal line. (B) A vertical line is produced when an alternating voltage is placed on the vertical plates. (C) A slanting line results when an alternating voltage is applied to both horizontal and vertical plates. (Drawings by Victor Willard.)

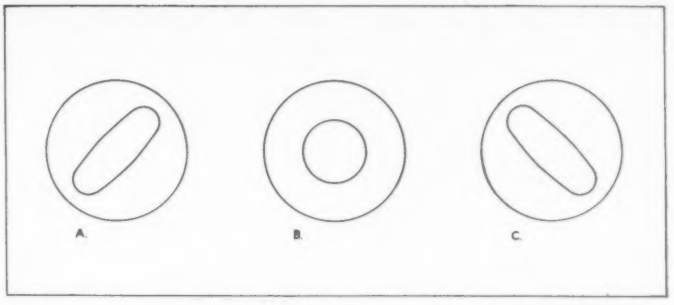

Fig. 1.2. If the alternating voltages, such as applied in *Fig. 1.1* are not in phase, straight lines do not result. (A) shows the voltages 45° out of phase, (B) 90°, and (C) 135°. Many other shapes are possible.

Even with all of this, a "scope" would see a short-duty cycle in most large telephone offices, and in small offices the investment might not be justified. Accordingly, this writer procured an oscilloscope and conducted a series of tests on regular telephone apparatus to see if the scope would do a better job than older methods. The results were most pleasing and these articles give the results of these tests.

The actual operation of the "scope" has been discussed on these pages before, as has the significance of certain types of wave shapes. (See "Trouble Clearing—The Oscilloscope—How it Works," by L. N. Martin, Feb. 15, 1957; and "Trouble Clearing—How the Transformer Affects Wave Shape," Jan. 19, 1957; "Radar Enters the Telephone Field," by Harold McKay, Feb. 11, 18 and 25, 1956. The latter article shows construction of the cathode ray tube and how the trace is formed.)

The cathode ray oscilloscope might be called the pipe organ of the instrument field because it is the equivalent of several instruments in one. It will make measurements which would require a wide variety of other instruments if it were not available. Also, like any musical instrument, it will spring to life in the hands of a person who loves it and will give its best.

The "scope" has quite a few controls on it, and proper presentation of information on its face requires that the operator balance one control against the other, bringing out each little fine point as he wishes to express it. He actually must "play" the instrument and with a little practice it soon becomes an expression of his own mind and new revelations will come automatically.

First of all, let it be said that all an oscilloscope does is put a dot of light on a screen. This dot can do only three things: It can move up or down, it can move sideways, and it can get brighter or dimmer.

Applied Voltage

Each of these things are done by the application of voltage to different electrodes of the cathode ray tube. If voltage is applied to the vertical circuit the dot will move up or down. Hence, the "scope" can be used as a voltmeter, because the more voltage applied, the higher the dot moves.

A voltage applied to the horizontal circuit moves the dot to one side or the other. If an alternating current is applied to either circuit, the dot will race back and forth, or up and down. If applied both vertically and horizontally, the line will settle for half way between and become a slanting line. (see *Fig. 1.1.)*

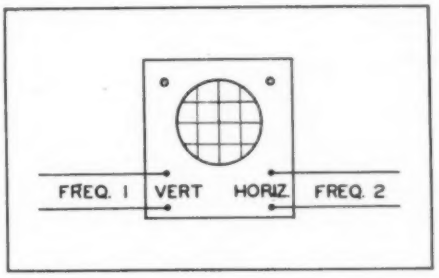

Fig. 1.4. Method of connecting an oscilloscope to present Lissajous figures. The normal internal horizontal sweep or timing is not used. Most "scopes" have a selector switch on the panel which disables the internal sweep.

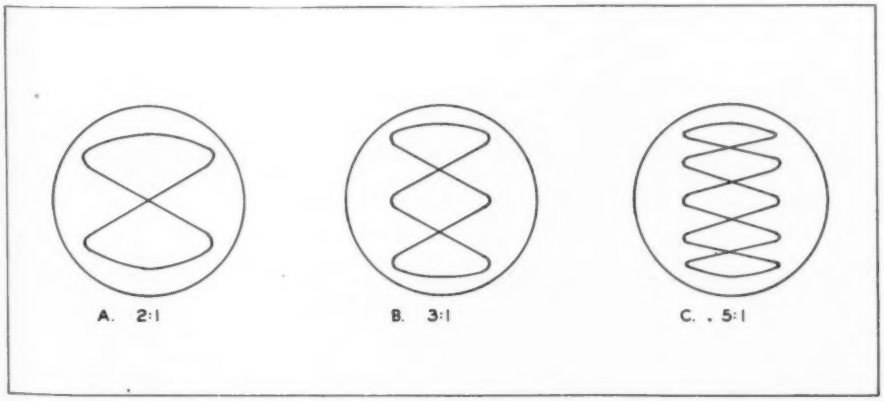

Fig. 1.3. When the frequency applied to one set of plates is different from the frequency applied to the other plates, patterns like this result. These Lissajous figures can be used to identify an unknown frequency by comparing it with a known. (A), (B) and (C) show ratios of 2 to 1, 3 to 1, and 5 to one, respectively. Ratio of horizontal to vertical loops is frequency ratio.

If the voltage applied to the horizontal is different in phase or frequency from that applied on the vertical circuit, any one of a number of traces may appear which are known as Lissajous figures. Thus the scope can be used to measure phase and frequency. *(Fig. 1.2* and *1.3.)*

Oscilloscopes can be purchased at prices ranging from do-it-yourself kits for less than $100, to elaborate laboratory devices costing from $1,000 to $2,000. With better grade models, one gets better construction, freedom from hum interference, wide bandwidth in the internal amplifiers and various extra features.

Some of these features and their applications will be discussed in the next of these articles.

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Dial Service and Community Relationships

By THOMAS M. HENNESSEY*

"WHAT'S that nice brick building over there?"

"That's the new telephone building."

"Oh? I thought the telephone office was on Main Street."

"It used to be. But the town has been changed over to dial. That new building is full of automatic machinery and equipment. Nobody works there at all."

In more and more of the communities served by the New England Telephone & Telegraph Co. it's true. There's a nice, neat new telephone building, but—*nobody works there at all.* In smaller towns especially automatic dial equipment has replaced the switchboard operator. Bricks and mortar are sealing off the company's traditional direct contact with its customers.

That, of course, is the price of progress. As telephone service grows faster and more accurate, it also tends to grow more impersonal.

The New England company—looking ahead to the time, now only three years distant—when it will be on a 100 per cent dial service basis, has been increasingly concerned over this "drying up" of day-to-day contact with its customers.

So last year New England T&T management decided to do something about it—something definite, not to say drastic.

First move was to emphasize the public relations aspects of the delegation of authority that had been made to local management in recent years. On-the-spot decisions which better reflected local conditions were encouraged. For example, the local people now have more to say about the budgeting and control of expenses for construction in their area. They assemble and release public information to the local newspaper.

Local people make the decisions to participate in civic activities and celebrations. Local people can now initiate more of their own methods to determine local public attitudes—and take steps to improve them.

Thus, through the relaxation of rules —by allowing considered departures from the "letter of the law"—a warmer climate of friendly community relationships is being established for the growth of the telephone business.

The logical next step in the New England company's public relations program was the establishment of local operating committees and proprietorship groups. These are formed in each manager-wire chief area, and include the local manager, wire chief and chief operator and possibly the unit engineer, supervising construction foreman and head line assigner.

The project calls for employes living in an area to meet with these groups, now known as local management teams. At their meetings, local public relations and customer relations problems are discussed, and a positive course of action established.

These programs have been highly successful, and a significant factor in their success has been that employes actively participated and accepted a real responsibility in the company's effort to improve public relations and they have responded accordingly.

From such activities the resident employe meetings developed. This program was a new and significant approach to developing a closeness to customers in a community dial area—an area in which no telephone people work.

Each group, comprising employes both active and retired who live in the area, organizes with a chairman who serves as liaison between the group and local management team. The group itself in turn serves as liaison between the customers and the company.

During 1956 more than 125 of these resident employe groups held more than 200 meetings in towns throughout the five-state territory served by the New England T&T company. Employes had the opportunity to learn from management all the answers about telephone service in the home town, which, of course, they passed along to friends and neighbors.

*Mr. Hennessey is vice president-public relations of New England Telephone and Telegraph Co.

Members of the Presque Isle, Maine, local operating committee ready to answer questions at the telephone town meeting. This meeting was part of New England T&T's effort to stem the diminishing number of contacts between the telephone company and the public in small communities where dial service has replaced the operator.

Left Photo: Ladies of a local Presque Isle, Maine, club furnished delicious sandwiches, cake and coffee for the guests at the town meeting sponsored by New England Telephone & Telegraph Co. Right Photo: The Presque Isle Operating Committee (New England T&T personnel) met with the Houlton, Maine, town council following the meeting shown at left.

By the same token, they passed along to management the comments of these same friends and neighbors about the telephone service they were getting.

The results of these meetings were concrete and positive—a general improvement of service, prompt attention to service problems, improved employe and customer attitudes, improved public relations, closer contacts with customers and closer contact between the community and the non-resident local management team.

Here, again, a significant reason for the outstanding success of the resident employe group program was that employes felt that they were being taken into management's confidence—being told about some of the company's problems and aims—and being made to realize how important they themselves were as members of the telephone team.

So far, so good. More New England Telephone people were gathering together in the interests of good service—making more friends—being more sensitive to the thinking of customers—than ever before.

But there remained one big problem—how to establish friendly contact with the town where a visit by an installer-repairman was the only link with the public—the town that not only had no switchboard but in which no telephone employes lived.

The answer lay in the Telephone Town Meeting. This development has been so successful in New England that it has been adopted by companies far outside the region.

To set up a telephone town meeting, the local management team simply invites residents of a community to meet with them on a semi-social basis for an evening of dinner or refreshments and informal discussion.

New England Telephone people who have taken part in these town meetings believe that they offer the most effective way of all in getting to know their customers, to understand their problems and service expectations and to create and maintain a favorable attitude toward service, costs and the company itself.

This, in brief, is the story of the New England Telephone & Telegraph Co.'s "New Look and New Deal in Public Relations." The three major activities—the local management teams, the resident employe meetings and the telephone town meetings—have, in the opinion of management, done more to break the ice of isolation and formality between the company and its customers than any previous program ever accomplished.

And the three-pronged program has been and the company believes will continue to be successful for two major reasons. First, the company meets its customers on an informal, neighborly basis at the local level, and when all is said and done, no matter how widespread the company's operations may be, they begin with local communities and ultimately return to them.

The second reason for success is that the program generates genuine enthusiasm among employes because employes feel that they are in a very real sense members—and essential members—of the public relations team.

(EDITOR'S NOTE: *What follows of Mr. Hennessey's article is part of a talk he gave at the Associated Industries of Massachusetts seminar held early this year at the University of Massachusetts. We omit his opening remarks on participation in civic affairs and pick up the thread of his talk at the point at which he commented on "men who realize that their interest and those of the community are interrelated and inseparable—men who realize that the progress of their own businesses cannot go in one direction and that of the community in another.")*

In many respects this is a change in 20th century business philosophy. But it is only good common sense. It is nothing more than recognition of the principle that we have social responsibilities to the communities we serve. It is based on the simple fundamental that good citizenship is an important characteristic of good business leadership.

And before I leave this subject of good citizenship let me add that the big job must be done by the company president and other company officers. We can always delegate within our own organizations our own administrative responsibilities. But we can never delegate our civic responsibilities—these we must assume ourselves.

We must contribute to civic endeavors the same know-how and energy,

Traffic Manager Howard Gaskil addressing the Athol, Mass. town meeting.

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and use the same contacts that mean so much to the success of our own enterprises. It is not enough to loan our names to the "Letterheads"—we must lend our time as well.

In my remarks today, I would like to describe some of our community living activities in the telephone business. I mention these not because I think we have the answer to this whole problem. We're merely feeling our way. But I think we're making progress, and you may find application for some of our experiences in your own business.

Our company is a big company. We operate in five New England states, employ some 41,000 workers, and service over 2 million customers.

Our size can either be a liability or an asset depending on the way we conduct ourselves in dealing with the public. This is especially true of our operations at the community level where our conduct most directly affects the customer. And our growing mechanization, with fewer direct personal contacts with our customers, has a bearing on this.

There's a long history in this country of suspicion of bigness. Down through the ages people have had an inherent distrust of bigness—principally because they associate it with power—power to harm—power even to destroy.

On the other hand, Americans are used to bigness. This is a big country and there is widespread belief that big business fits the needs of a nation which by its very basic philosophy encourages businesses to grow big.

People admire big business when they believe it is in their interest. They remember industry's war-time accomplishments. They credit big business for creating jobs, prosperity, and a continuous flow of new and better products and services.

Yet there are many people in this country who have an inherent distrust for any concentration of business activity. A few see no solution but partition—breaking it up into small units. But most of the suspicious ones advocate more government watching, more government curbs, more government regulation.

These are the ones who feel we have too much power over smaller businesses, over schools, over the press and over government itself. They feel we are responsible for technological and seasonal unemployment, and that, through monopoly, our profits and prices are too high. They feel that our management is remote, arbitrary and impersonal.

That is why we have been examining our policies, our practices and our administrative structure, in a search for ways to emphasize all the more our desire and strength to serve. That is why we have been striving to eliminate those features of our operations which add to the public concept that we possess a power to harm.

And what did our examination show? First of all it pointed up the fact that our organization structure was not at all consonant with our concept of community living. We were highly departmentalized, with departmental organizations in five states pyramiding into department heads in Boston.

Such an organization structure seemed to emphasize the very remoteness for which we were being criticized. And in order to demonstrate our conviction of the importance of community living, in order to meet the rapidly expanding size of our business, and in order to live more closely with our customers, we established the state general manager type of organization.

Under this plan of organization, authority was delegated to the general managers in the five states in which we operate. And this was real authority—and responsibility too—for service, earnings, public and employe relations, including the way in which we might properly participate in the local activities of the several hundred communities we serve throughout New England.

We found many instances where company-wide practices no longer seemed to fit the concept of community living which this new delegation of authority was beginning to develop. Examples are:

(1) *Use of garage at Laconia, N. H.* In this community, a civic service group needed a large building to stage a three-day home show. It was found that the telephone company's garage met the requirements, and the local management team made the space available.

This was a sharp departure from the past when all such requests had been turned down, for it meant among other things that company motor vehicles would have to be left out in an open lot overnight. But local management again exercised an opportunity to live more closely in the community.

(2) *American flag at Bangor, Maine.* This community, which was sponsoring a local civic celebration, requested the telephone company to fly the American flag on top of its building.

A company policy of long standing specified flying the American flag on national holidays only. The local management team stepped in and took the opportunity to bring the company and community closer together by doing its part locally in helping to make this town celebration a success. This action resulted in a change in company policy. Decisions as to flying the flag on other than specified holidays are now in the hands of local management teams.

These are only a few of the many instances where under a general manager type of organization, a new concept has been developed of the extent to which our people and our facilities may be properly used in participating in worth-while community activities.

So I would urge that all of us take a good look at the way our local representatives are being hamstrung in the exercise of authority. The aim should be to permit greater participation in local community affairs.

Further examination of company policies focused on our gradual but inevitable loss of direct contact with our customers as we moved ahead with our program of mechanization.

Dial telephone service, whether it be local or long distance, is better service. It is better technically and is our only solution to the "built-in" wage theory that is now becoming so prevalent, as well as an answer to a rapidly growing inadequate labor market for the thousands of switchboard operators that we would otherwise have to employ.

But with the growth of dial service we are losing many of our direct contacts with our customers. Ten years ago, each employe had about 1,000 contacts per year with the users of our service. Today it has been cut in half —or about 500 per year. By 1960 it will be down to 200.

This is of real concern to us—particularly when we are completely vacating so many of our New England communities—where heretofore telephone service was provided by giving all requests to a friendly local operator.

By 1960, we expect that in some 500 of the 600 exchanges we operate, telephone service will be provided by electronic equipment. The nearest personal contact with telephone employes will be many miles away.

How do we promote community living under these circumstances? How do we offset bigness, remoteness and arbitrariness under such a setup? How do we provide the warmth, the personality and the friendliness that so characterized our operations in the many years past?

Once again our answer is found in our employes. Although we are now 80 per cent dial, we have more employes than ever before. True, their work locations have been changed and

(Please turn to page 40)

THE Plant Man's Notebook

BY RAY BLAIN, TECHNICAL EDITORIAL DIRECTOR

COMMUNICATIONS engineers are now considering a new concept of future microwave communication systems. Instead of ths customary 25 to 30-mile hops, they are planning the spacing of repeaters at about 10-mile intervals. These repeaters will be located along main traveled highways. Dishes will be mounted on poles only about 10 feet higher than those normally used to support open wire and cable aerial lines.

Equipment will probably be installed in weatherproof cabinets mounted on the base of the pole, and buildings will not be required. Duplicate equipment with automatic changeover will probably not be provided in most cases.

An alarm system will indicate at a central point when a certain repeater develops trouble and a centrally located maintenance man who is responsible for a particular area will be dispatched immediately. Repairs will be made quickly by replacing plug-in units.

It is the opinion of certain engineers that this system will prove more economical than many other means of communication. Interference problems will be reduced and a better utilization of frequencies will be possible.

This system will also make it possible to engineer drop outs as required in remote areas to meet the growing needs of our decentralized industry.

The system can possibly be used also to provide television service to many remote areas now located beyond the fringe of the large broadcasting stations.

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In the nation's capital, anyone may call EXecutive 3-3690 on Monday evenings between the hours of seven and eight and obtain cancer information free. This service, known as "Cancer Answer" was started over a year and a half ago by the Washington Cancer Society.

The physicians who provide this service are on call eight months of the year and donate their services. They naturally cannot diagnose a case over the telephone, but they can allay needless fears and recommend a visit to a clinic when considered necessary. Callers may remain anonymous. The physician to whom they talk always is.

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A recent report on a survey made across the country of the 14 most popular colors indicates that pastel yellows, corals, aquas, blues and wood tones are leaders.

It appears that the demand is for more and more color, but the lighter and cleaner the better. Deep greens and browns are out as are also the once popular favorites, gray-greens and yellow-greens.

•

The writer visited the home of Chester Welch, in Las Cruces, N. M., recently and enjoyed the fine music from his hi-fi system. Chester is a communication engineer for the Army at White Sands Proving Grounds and an ardent hi-fi fan. The sound system that he designed and installed in his home is the best we have ever heard.

The record player, amplifiers and control panel are installed in a roomy closet. Single speakers, cleverly concealed, are installed in each room of the house, the patio and even in the front yard.

A series of speakers with flexible controls are installed in the ceiling of the living room. Each speaker is cut in and out independently and each is equipped with an individual volume control.

We also must admit that adobe houses have an acoustic quality that goes well with hi-fi sound.

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The American Telephone & Telegraph Co.'s annual survey, based on information gathered from some 250 governments and companies throughout the world, indicates that Hawaii and Alaska are the two spots where the telephone is used most.

Hawaii out-talked all others with 647 conversations per capita last year, while Alaska was second with 572. For the fourth consecutive year, Canada averaged more telephone conversations per person (446) than did the United States with 409. Iceland ranked high with 399.

•

The teen-age Junior Achievement Associates are making good use of old magneto telephones salvaged from two magneto exchanges recently converted to dial in Nevada. These instruments are being refinished and their inner workings spruced up so the bell will ring at the turn of the crank.

The sets are sold as antiques at $25 each by the Junior Achievement group. This up-and-coming firm is sponsored by the Bell Telephone Co. of Nevada.

The young sales force concentrates on homes having early American or colonial décor. The demand has surpassed all expectations. The sets prove to be versatile and are used for planters, spice cabinets and even radio receivers.

•

The writer never ceases to marvel at the efficiency of modern air lines and the use they make of communications. Recently we arrived at the National Airport in Washington, D. C., early in the morning, prepared to fly to New York City. The weather was bad for flying because of rain and fog and many flights were cancelled or their departure indefinite.

We finally got an Eastern Air Lines flight that had a scheduled stop at Baltimore. We were delayed on take-off at Baltimore and the captain explained that we were waiting until a schedule could be arranged in the landing pattern at La Guardia Airport in New York.

When we arrived in New York, the

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ceiling had dropped below the permissible minimum for landing. The captain advised that we would circle for 25 minutes and if the fog did not lift at the end of that time we would land either at Newark or Idlewild.

Miraculously, in just 25 minutes the ceiling did lift and we landed at La Guardia without incident. We were only 30 minutes late for our appointment at 195 Broadway and they were surprised that we made it.

Without the efficient use of good communications, plus the excellent judgment and skill of the air line employes, we probably would never have made our appointment that day, or perhaps ever!

•

We noticed recently a roadside telephone booth on the Washington-Baltimore Parkway that had every window shattered. It is a real pity that any individual can be so mentally warped as to obtain satisfaction in such an act of vandalism.

Since roadside paystations provide such a worth-while service to the traveling public, their availability should not be jeopardized by the few morons who seem to take satisfaction in destroying the property of the telephone companies. Perhaps the answer to this problem is the use of alarm circuits which would result in the prosecution of these criminals and the end of this foolish business of malicious destruction of property.

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E. Davis, of Salt Lake City, suggests the use of a Variac for flash-testing of cable trouble to burn down high resistance faults. He reasons that with this arrangement any desired voltage could be obtained and with meters on the secondary the effect could be observed at all times.

It would seem that with this arrangement the application of voltages and currents could be controlled and damage to the cable prevented.

•

On a trip through New Jersey recently, we noticed telephone workers with trucks and trailers painted a bright yellow. This is certainly a big improvement over the dull green variety so often seen along our highways.

There is little doubt that eventually all telephone companies will adopt the yellow color as it certainly proves its worth in increased safety for vehicles that must be parked frequently along busy streets and highways.

Plant Man's QUIZ

By RAY BLAIN, Technical Editorial Director

Q. We hear frequent references being made to various message accounting systems, such as AMA, CAMA and LAMA. We are confused as to how these terms differ and would welcome an explanation as to what they are and how they are used.

A. The Bell System explains these systems and their use as follows. There are two types of AMA systems: local automatic message accounting (LAMA) and centralized automatic message accounting (CAMA).

With LAMA, the recording equipment is located in each central office. With this system, when the customer dials a call, the machine punches a series of small holes in a three-inch wide paper tape. These holes form a code which provides the same information that the operator formerly wrote on the ticket.

The recording equipment for a CAMA system is centrally located and serves more than one central office. To identify the calling party, after the call is dialed, an operator comes in on the line and requests the calling number. The operator then keys this number to the recording equipment and the call is extended in the usual manner. The tapes produced by both of these systems are identical.

These tapes are forwarded to the AMA processing center daily. Here, the assembler-computer, a machine that understands the same electronic language as the recorder, punches two new kinds of tapes. One tape is for long distance calls and the other for message unit calls. The message unit tape indicates the telephone number of the customer who placed the call and the total message unit charges.

The message unit tapes are held until the end of the billing period when the customer's bill is prepared. Then they are processed by the sorter which consolidates all of the information shown on the daily tapes. The summarizer adds these charges and indicates a total for each customer. The last step is taken by the printer which changes the code punched on the tape to printed letters and figures. The final product is a tape with a list of telephone numbers and the total number of message units used by the customer. This list is forwarded to the revenue accounting office where the charges are placed on the customer's bill.

A different method is used for long distance calls. Instead of the coded information on the tape being printed, it is transferred to a punched card by a tape-to-card converter. This standard IBM card is then processed through several more IBM machines—the calculator that rates the call; the sorter that places all calls in number order; and the tabulator that prints the customer's toll statement.

This brief explanation gives only a general idea of how AMA operates. It tells nothing of the speed, complexity, and uncanny accuracy of the processing machines. They are far ahead of human ability in the accuracy department. A series of electronic checks and counter checks eliminates mistakes. If some error was made by the recording machine in the central office, the processing machine will take proper notice and sound a gong to warn the human operator. Some machines will even tell the operator, through a series of lights, the type of error found. To further protect the customer, where billing information is incomplete, the machines record only the initial charge for the call. If this cannot be determined, they throw the call out.

•

Q. We have heard that an attachment can be procured for an ordinary electric drill so that it can be used as a hammer drill for drilling holes in masonry. Can you give us any information on this device?

A. There is such a device on the market and it can be procured from your telephone supply house. This attachment converts an ordinary electric drill into a rotary impact masonry drill.

It may be used on any ¼-inch electric drill and its manufacturer claims that it will bore a 1-inch hole in solid concrete in 30 seconds. It takes ¼, ⅜ and ½, ⅝ and ⅞-inch carboloy drills.

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This famous Leich telephone "un-complicates" your business. For the same instrument, just as it is, can be used for either wall or desk installations. It's not necessary to convert, buy or add anything. Don't, however, forget to turn the dial around so the numbers are right side up if you plan to use this Leich *desk* telephone as a *wall* telephone. Simple. Effective. Economical. And proved-in-service.

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GENERAL SYSTEM INDEPENDENT

THE Operator's Corner

By MAYME WORKMAN — TRAFFIC EDITOR

MIRACLES ARE NOT SO RARE in a central office, but, according to "Times Talk," one happened recently which probably tops all the rest—the case of a telephone supervisor in New York, Kitty MacDonald, who located the only American relative of a Hungarian boy from among New York's 8 million people.

Alexander Gaal was a new Sunday department copy boy recently arrived from Hungary. A few days after Alexander joined *The Times*, Gertrude Samuels of the Sunday staff, asked him at luncheon if he had kin in this country. The only relative he knew of, he told her, was a remote cousin who had stopped off to visit his family briefly in Budapest seven years ago. Her first name was Irina, but he couldn't recall her last name. It might be Kem, he thought, or Klem—he couldn't be sure. He knew only that she lived in New York.

Through some odd memory quirk, he did remember part of her telephone number. She had written it down for him during her Budapest visit. It began with W, he recalled, and the last four digits were 3313. Of that he was positive. He thought it might be WH 7 or WG 7. He had tried to call those numbers when he first got here but the operator told him there were no such exchanges.

Miss Samuels thought these vague clues held interesting possibilities. Back at her desk, she dialed variations of the combination of letters and numbers. She tried WH 7-3313 (which registered as WIsconsin 7) and got Lord and Taylor. It occurred to her then that the cousin might possibly work there; might have given that as her telephone number.

Miss Samuels asked for the store's personnel office and put the question. They had no employe named Irina Kem or Klem. When she explained her problem the personnel office offered to check their records of seven years ago—but no Kem or Klem showed up.

After that Miss Samuels decided that if anyone could run the thing down, it would be Kitty MacDonald. She's legendarily expert at turning up impossible-to-get telephone numbers. Miss Samuels took Alexander up to the eleventh floor telephone room.

Mrs. MacDonald pondered the clues awhile. She figured that a printed H could look like an A; that possibly the number was WAdsworth 7-3313. She tried that, but got no answer. She tried several of the 31 other possible combinations of Manhattan exchanges beginning with W—but got nowhere.

Then she called the telephone company and asked if, over the last seven years, they had a listing for Klem (or Kem), Irina. The answer was "no."

Kitty asked the telephone company for the name listing on WAdsworth 7-3313. The subscriber, the company told her, was someone named Littman, at 610 West 173rd Street. Kitty went to the Reverse Telephone Directory which the telephone room keeps handy, and learned the full name of the listing was Littman, Irene. Hope lifted—but WAdsworth 7-3313 still didn't answer.

Referring again to the Reverse Directory, which is set up geographically by street addresses, Kitty ran down all the 610 West 173rd St. listing. She found a telephone for a registered nurse at that address. She called the nurse—Gertrude Heineman. Did she by chance, know an Irene Littman in her building and, if so, was she of Hungarian background?

"She's my next door neighbor," Miss Heinemann told her, "and she is of Hungarian descent. She goes to business. She should be home around 6 o'clock this evening."

That night Alexander Gaal called—and reached—his cousin. She is Irene Littman. (The Kem, or Klem, he now thinks, was another name that somehow stuck in his memory.) Miss Littman greeted him warmly, asked him to her apartment the following evening. They had a fond reunion. She served him Hungarian dishes, played Hungarian music on her record player, told him of other relatives in New York.

In eagerly grateful but somewhat broken English, Alexander poured out to Kitty MacDonald details of the happy results of her telephone wizardry. Then, the continental touch—he seized her hand and kissed it.

What a happy ending! Both Kitty MacDonald and Gertrude Samuels deserve credit for their kindly interest in helping a newcomer to our country find a relative who, under the circumstances, meant so much to him. They were faced with a challenge that could have easily seemed unsurmountable.

But they were not daunted and how great was their reward in achieving their objective—to bring happiness to Alexander Gaal and his cousin, Irene Littman. (Kitty MacDonald is a telephone supervisor in "Times Talk" office).

Traffic Questions

(1) In advancing an Aircraft Flash Call, how should the order be passed by the outward operator?

(2) What precedence is given to Aircraft Flash Calls?

(3) Is the outward operator permitted to abbreviate "Aircraft Flash" on the toll ticket?

(4) What abbreviation is used for "Aircraft Flash?"

(5) What information is entered on an Aircraft Flash call?

Answers are presented on page 51.

Individual at the Helm

"Throughout this country's past its magnificent future has always been created by individual initiative, not by government. In this generation we have had a surfeit of government; we have too much government now. Why should not the future belong to the individual instead?"—*Editorial, Wall Street Journal.*

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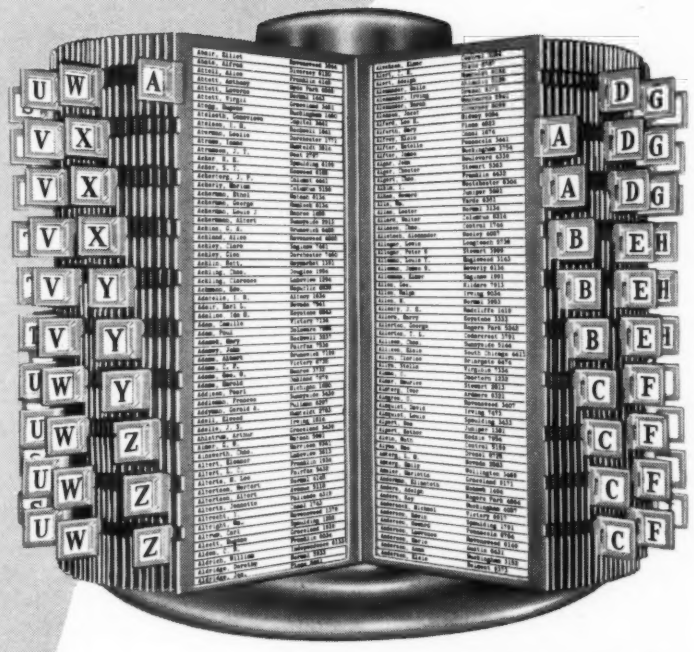

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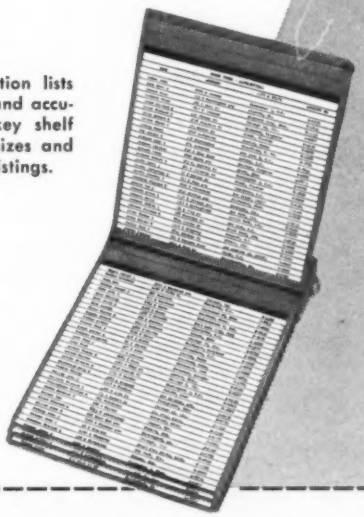

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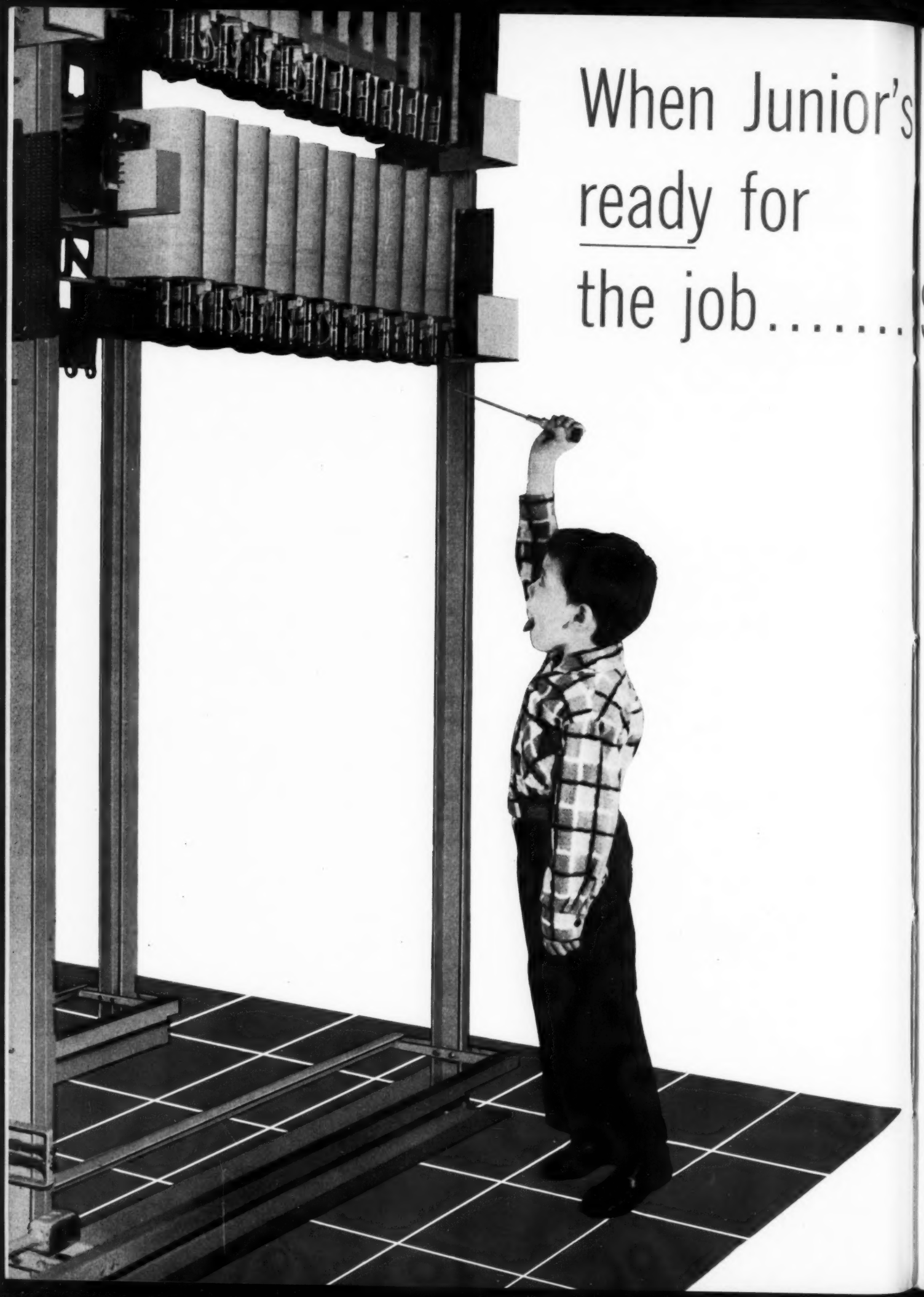
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MAXIMUM OUTPUT From Office Machines

By William J. Milford

ONE OF THE SUREST ways to waste profits in any telephone company business office is to fail to secure maximum output and efficiency from the office machines. A machine, for example, designed and built to produce 10x output, when used at only half that efficiency is delivering but 5x output, and the difference in almost every case is a considerable waste of overhead costs in that office.

There is no complicated procedure necessary to make sure this is not happening in *your* office. It can be determined by following a simple five step procedure which is applicable in the smallest office with a single machine, as in the more elaborate layout with scores of machines of all types.

Experts point out that usually the greatest wastes are in the smaller offices using from one to ten machines of various types. In big office layouts, management is conscious of getting the maximum out of every machine and has usually placed this as a continuing responsibility in the hands of some one individual. In the small office the executive has so many other chores to handle that this is one which falls into disuse through lack of time to give it proper attention.

First of our five pointers is to make certain that we have a thorough knowledge of the manner in which each machine does its work. Half measures mean half performance. Limited knowledge means that we are taking advantage of only a fraction of the potential utility of that office machine. This is even more true today than a few years back, for office machines have become more and more complicated as their versatility has been increased by the manufacturer.

It will pay any office executive to make a careful survey not only of his own knowledge as to use of the equipment but to check the efficiency of the men and women in his office on this point also. The discovery of even one single area of unknown use can more than repay any extra effort expended to find it out.

One method of making certain of efficient operation is to call in the local expert employed by the manufacturer of the machine to make certain that his unit is being used properly. In many cases such information can be given us by a salesman. These people are always more than glad to cooperate, for their own best interests lie in our obtaining maximum use and efficiency from a particular unit.

The person instructing should be told specifically what we have in mind, for it will enable him to make certain that his approach to our problem is correct. Individual instruction of each employe on each machine to find out just how much he knows about the equipment should be part of this step. Many executives have such demonstrations made before the entire office force in order to make certain that each employe has the widest possible knowledge of the use of every machine in the office.

A knowledge of the capacity of each machine should be the second area of exploration. Where employes have been added to the staff after original demonstrations were given, it has been found almost without exception that this one point offers the greatest opportunity for instruction.

Knowledge of capacity applies both to maximum and to minimum with respect to every machine. When a unit is not being used to full capacity we are always throwing away part of the capital investment therein. When employes push a machine beyond its capacity, then we are drastically cutting short its useful life and increasing maintenance and repair costs . . . the former increase capital outlay while the latter boost overhead.

Knowing exactly the full limits of capacity and performance of each piece of equipment also adds to any executive's own ability to do a better job, for it facilitates his work planning.

The mechanical deficiencies of each machine should be known by the executive and every member of the office staff. Salesmen, to protect their own interests, have a way of glossing over such weaknesses when they are making the sale. Sometimes they will point these out but play them down.

It is therefore a good idea to talk with each salesman *after* the purchase has been made, to discover what particular deficiencies each machine may have. Usually we will be given the information cheerfully. If the salesman truthfully cannot answer such questions we can always obtain them from the service manager of the company handling the unit.

Knowing each and every weakness is our assurance that no such unit will ever be pushed beyond its capacities. The lack of this knowledge by any individual on the staff can not only delay work output and cause serious jams in the office routine at any time, but can also endanger the machine itself AND it most certainly will add to maintenance and repair costs.

Not only should all such information be furnished to every man and woman in the office but the executive had best make certain that employes are following these mechanical limitations from week to week. All of us have a tendency to get careless, and consistent abuse of any machine will prove very costly.

Fourth on the list of essential information needed for securing maximum use and output from office machines is a knowledge of the general factors of deterioration which contribute not only to shortened life for each machine but decreased efficiency and output in its daily use. The more we know and understand of each of these factors the more capable we are of protecting each machine.

Fifth and last point is maintenance. Here, particularly in smaller offices, is one of the greatest causes of reduced mechanical efficiency. The man or woman who is very much aware of the importance of taking care of his or her automobile will too often be completely indifferent to the need for equal maintenance care of the office machines used on the job day in and day out.

The manufacturer of every machine has maintenance data available (as do his dealers) and the chances are it was given at the time of purchase in either written or oral form. If such information has gone astray it will pay any executive to obtain it, digest the important maintenance points and make certain every individual in the office knows and understands the importance of such attention.

It is usually best procedure to assign maintenance responsibility to one individual, for when this has been done it is more apt to be carried out than where there is no fixed responsibility. But even where this step has been taken, each employe should know and understand specific points of such maintenance in order to make certain that nothing is ever overlooked.

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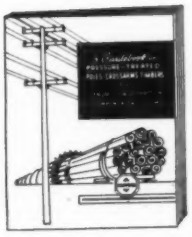

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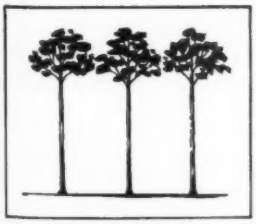

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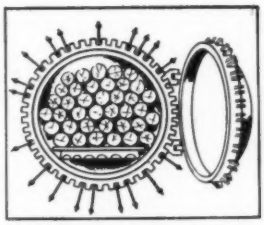

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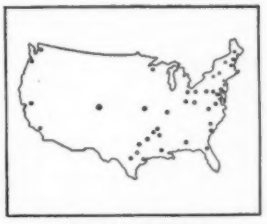

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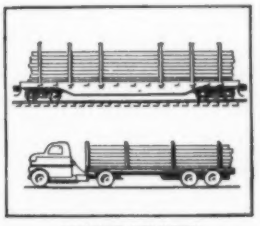

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Courts and Commissions

Highway Reimbursement Bill Vetoed in Rhode Island

Governor Roberts vetoed on May 13 a Rhode Island legislative bill which would have required reimbursement of public utility companies for the cost of moving their facilities when necessitated by federal-aid highway projects.

"In my opinion," the governor declared, "the reimbursement of utility companies from public funds for the relocation of their facilities is not justified. It has long been recognized that the allowing of utility facilities on public highways is by sufferance, and that the rights of the companies are secondary to the rights of the public in the use of the highway property.

"In disapproving this measure, I am also cognizant of the high cost of relocation of utility facilities, which, I am advised, could cost $20,000 per mile of construction or reconstruction.

"Since there is no separate fund available for the payment of the cost of relocating utilities, it is evident that to pay these costs will reduce the number of miles of highway construction that have been contemplated by the state."

Ill. Bell Buys Independent

Illinois Bell Telephone Co. on May 15 took over the properties and operating rights of the Manhattan Telephone Co. The Manhattan company was incorporated 56 years ago, and has 650 subscribers (TELEPHONY, Oct. 13, p. 40).

Seek Rate Raises in Wis.

The Wisconsin Public Service Commission on May 27 was to hear application of the Farmers Union Telephone Co. for authority to increase rates, and on May 29 the application of the Clayton Rural Telephone Co. for similar authority.

Neb. Company Incorporates

The Stock Growers Telephone Co. of Custer County, Neb., filed articles of incorporation with the Nebraska Secretary of State on May 19. Incorporators of the non-profit organization are Lawrence Anderson, Eugene Ostergard, Harry Ostergard, Byron Maline and Carl Tiderman.

State's Attorney Upholds Relocation Bill in Okla.

An opinion by the Oklahoma state's attorney general's office held on May 14: that a bill passed by the 1957 state legislature providing for use of the 90-10 federal matching formula for relocation of public utilities along the interstate highway system does not violate the state constitution.

The ruling was directed to Senator Keith Cartwright of Durant, chairman of the state senate roads and highways committee and an opponent of the bill.

Written by Assistant State's Attorney General Fred Hansen, the opinion cited several Oklahoma laws and court decisions in support of the new act's constitutionality. He said the measure does not violate either the state constitution or existing statutes.

He added, however, he could not rule on what effect the bill might have on charter provisions of the cities and towns of the state.

Under the measure, 90 per cent federal highway funds will be used to reimburse utility companies for the cost of moving their facilities when necessitated by construction on the interstate highway system and through towns with 5,000 or more population. Where the relocation is in towns, the act provides the municipality shall pay the remaining 10 per cent of the cost.

SW States Seeks to Sell $2,000,000 in Bonds

Southwestern States Telephone Co. is seeking authority of the Arkansas Public Service Commission to sell 2 million dollars first mortgage bonds to a life insurance group to provide funds for expansion, it was reported on May 18.

Headquarters for the Southwestern States company is in Brownwood, Tex.

Dial Service Rates in Ga. To Produce 6.8% Return

Canton Telephone Co. on May 15 was granted a schedule of dial service rates by the Georgia Public Service Commission.

Net revenues of $34,020 were approved, which will represent a return of 6.8 per cent on the company's total investment of $502,395. Rates authorized for the company's Canton and Jasper exchanges are:

	Canton	*Jasper*
One-party business	$6.50	$5.50
Two-party business	5.25	4.50
Four-party business	4.25	3.50
One-party residence	4.00	3.50
Two-party residence	3.50	3.00
Four-party residence	3.00	2.50
Rural multi-party:		
Business, 0-2 miles	4.00	3.50
Residence, 0-2 miles	3.00	2.75

Cal. Party Line Bill Goes To Governor for Signature

Persons failing to yield a party telephone line in cases of emergency will be guilty of a misdemeanor under terms of a bill given final passage by the California Legislature on May 15 and sent to the governor for signature (TELEPHONY, April 6, p. 42).

The measure will apply in emergency calls to the police or fire departments, for medical aid or for an ambulance.

NW Bell Rate Increase Denied in Minnesota

A telephone rate increase sought by Northwestern Bell Telephone Co. was denied by the Minnesota Railroad & Warehouse Commission on May 21 (TELEPHONY, Dec. 15, p. 38).

The commission pointed out in its order that six rate raises have been granted the company in Minnesota since 1946. The last increase was authorized on Jan. 8, 1954.

A petition filed by the company last Nov. 8 requested an order establishing "fair and reasonable rates" for all classes of telephone service. No specific rates were asked in the petition.

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pany will realize a rate return of at least 6.2 per cent in 1957 in Minnesota, the commission contended that "the present exchange and toll service rates are just, fair and reasonable and are sufficient to yield a reasonable rate of return on the fair value of the company's property."

A statement released by the company declared the company would renew its petition for a rate increase.

Wayne L. Huffman, company vice president and general manager, said the order indicated the commission believed the company "would be able to absorb all of the added costs which we have incurred during the period 1954-1956 and still be able to operate in 1957 without any substantial decrease in earnings."

"This is not in accordance with the facts and we sharply disagree with this finding," Mr. Huffman's statement held.

"Our experience so far this year confirms our estimates for diminishing return made last winter. But this spring, when we asked the commission to permit us to present this additional evidence we were extremely disappointed to be denied this opportunity.

"The fact is that our earnings are too low. Earnings requirements are higher today than for many years and we have no choice but to go again to the commission and attempt to convince them of this fact."

Only an increase in telephone rates "will prevent further weakening of our ability to meet the needs of our customers, employes and security owners," Mr. Huffman concluded.

Nevada Bell Gets Increase

The Nevada Public Service Commission on May 3 approved a new schedule of rates for the Bell Telephone Co. of Nevada, estimated to produce additional revenues of $360,000 annually, or 80 per cent of the requested amount (TELEPHONY, Jan. 5, p. 30).

Requests Incorporation

The North Riverside Telephone Co. of Culbertson, a non-profit company for which articles of incorporation were filed with the Nebraska Secretary of State, has as incorporators Harm W. Alberts, Willard Rippen, William Hageman, Jack Brecht, Joe Case and John Stratman, it was reported on May 22.

What Is Required Today

"Duty is carrying on promptly and faithfully the affairs now before you. It is to fulfill the claims of today."—GOETHE.

IN THE NATION'S CAPITAL

Continued from page 18

ciation of Radio and Television Broadcasters, some of the networks, and other groups have contended it lacks such authority. Meantime, the commission left for the future a decision on whether subscription television can be properly classified as "broadcasting," or some other type of carrier service.

The FCC said that while it recognized the "importance" of settling the question, it believes it would be "premature" to attempt an answer until it has additional data on how pay TV would operate in "actual practice."

Proposals for three types of pay-as-you-see TV are now before the commission. They are: "Phonovision," developed by Zenith Radio Corp., with the subscriber billed by the telephone company. "Subscriber-Vision" proposed by Skiatron TV, Inc., in which customers would purchase punch cards to be inserted in a receiver to put into operation a decoding system. "Telemeter," advanced by the International Telemeter Corp., in which subscribers would pay for each program as it is viewed by means of a coin box attached to the receiver.

The "Utility-Fast" Tax and the President

Senator Morse (D., Ore.) got a lot of his Republican colleagues pretty mad at him recently when he said that President Eisenhower was just as "immoral" as Dave Beck, the acquisitive head of the Teamsters Union, who seems to have taken such liberties with his union's funds. That may well have been exactly what Senator Morse had in mind when he released his bitter personal attack on the President. But the fact that it was a tax-amortization certificate granted to a utility, which was the basis of Morse's remarks, makes the incident worthy of some notice to public utility people of all kinds.

Senator Morse may not be as entirely irresponsible as his remarks suggest. In fact, he has a record for gaining more publicity for his remarks than the content of such remarks would otherwise warrant. So when the indignant Republicans even suggested that Senator Morse might be censured, it was possible that the wily Oregonian was delighted.

Why? His main purpose is to gain publicity for an issue which he has been hollering about for over a year, but which comparatively few people have noticed, or if they have noticed have not indicated any particular concern. It is the issue with the colorful name — the "Hells Canyon project." Senator Morse does not want the Idaho Power Co. to build three power dams on the Snake River. He wants Uncle Sam to build one great big one, so that all the rest of us taxpayers can help provide cheap electric rates for the people of the Northwest, as well as pay for a power plant for their exclusive use.

Be that as it may, the Hells Canyon Bill was scheduled to come up in the Senate last week and, according to advanced dope, it was scheduled to take a beating. Whether the publicity generated by Senator Morse's wild swinging at President Eisenhower can gain additional support for it is doubtful. But Morse is in there trying.

This is no defense, of course, for the poor taste of Morse's comparison of President Eisenhower with the discredited labor leader. In fact, it is hard to find any defense for such tactics. What Senator Morse said is quoted as follows: "The President is reaching into the pockets of the working people to finance private companies, just as Beck reached into the coffers of his union."

What Senator Morse had mainly in mind was this: The Office of Defense Mobilization (ODM) has granted some 65 million dollars worth of fast depreciation to the Idaho Power Co. for its costs in building two dams on the Snake River. According to Senator Morse, this is comparable to the way Mr. Beck used union funds as disclosed in the hearings before the McClellan committee.

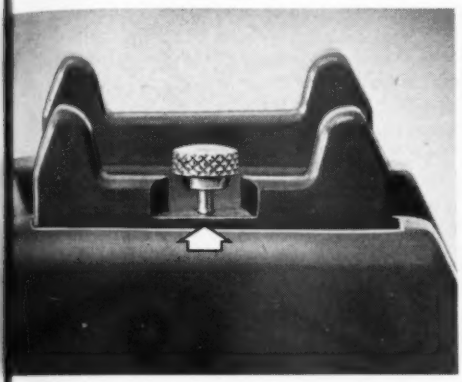
What Senator Morse did not say, and which he may have intentionally ignored, is the fact that the fast tax certificate granted to the Idaho Power Co. was a perfectly lawful operation of the ODM. The legality of it is not disputed by anybody, not even Senator Morse. The certificate was granted under a law put on the statute books by a Democratic Congress, signed by a Democratic President (Truman), at his request. The Idaho Power Co.'s tax certificate was the same kind, qualified in the same way as a great many more tax certificates granted for power plants, gas pipelines, as well as defense plants during President Truman's administration. Senator Morse did not complain about those other certificates at that time. Certainly not in such terms with respect to former President Truman reaching into anybody's pocket.

The fact that Idaho Power Co.'s certificate was granted so late—when the whole fast tax program is just about closed up—is due solely to the exceptional circumstances which made it impossible for ODM to grant the cer-

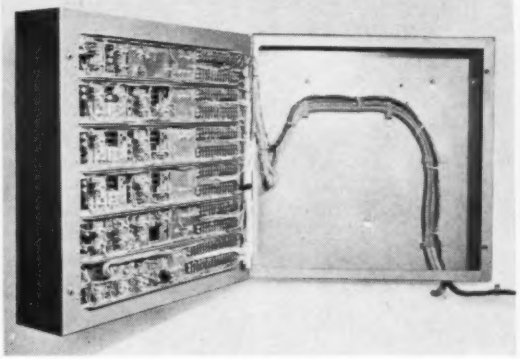
1 Make or receive outside calls on any phone in the system. Each instrument can have up to 4 trunks plus dial intercom—selected by keys.

2 Hold calls and transfer them without cutting off the outside party. This feature means increased efficiency and improved customer relations for the user.

3 Lamp signals show status of line. Through selective signal flashing on intercom, called station receives flashing lamp; all others glow steadily to indicate line in use.



4 Manual exclusion feature gives user complete privacy. When button is lifted, no one in the system can hear conversation. Several stations in system may have this feature.



5 Relay box swings open easily, permits quick access for inspection and maintenance. Dial selector is mounted here in system with up to 10 stations.

6 Tie-lines connect one system with another, even when the systems are at opposite ends of the city. Ideal for subscribers with more than one location.

A fingertip PBX with 15-station dial selective intercom

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Your small and medium-sized commercial subscribers who need a *complete* intercommunications network—with central office trunks—will welcome the Stromberg-Carlson 6K-1 System.

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Potential customers who will find the 6K-1 especially well-suited to their needs include bank branches, stores, law firms, insurance offices, social agencies and other organizations of moderate size but with a need for a multi-line system that provides dial selective intercom.

For selling aids and complete technical details on the revenue-boosting 6K-1 System, call or write the Stromberg-Carlson representative in your area.

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tificate any sooner. This was due to the fact that pending litigation made the validity of the Hells Canyon construction licenses of the Idaho Power Co. uncertain until very recently. And it was the government ownership bloc, of which Senator Morse is a leader, which was responsible for starting this litigation (nearly three years ago) and keeping at it until it was terminated in the U. S. Supreme Court only a few weeks ago. Having failed in its lawsuit, the government ownership people now use the very obstructive delay of their own litigation to discredit a tax certificate that would otherwise have been granted long ago (along with a lot of others) and would not have attracted any particular notice at the time.

The so-called fast tax depreciation is provided for by law (Section 168 of the Internal Revenue Code of 1954). What Senator Morse does not stress is that this law was first enacted in 1950 to get needed war plants quickly. It is true that the application of Section 168 to the Snake River dams is arguable, and that it is being vigorously argued by Senator Morse and others. It is true, too, that the war-type of fast tax write-off law may be called unwise in a time of merely cold war, and that Senator Byrd (D., Va.) has pending a bill which would narrow the write-off privilege—but not eliminate it.

Considerations like these do not, however, justify Senator Morse's claim that the administration's open and public application of a statute duly enacted by the Congress is like the furtive behavior of Dave Beck which, if proved in court, will certainly lack statutory support. In persisting in this claim, Senator Morse behaves not merely like a willful man but like a wayward one. It is a fairly safe bet that Senator Morse will not be censured. The worse punishment that could happen to him in fact would be if his remarks were ignored entirely. That would really make him mad.

DIAL SERVICE, COMMUNITY RELATIONSHIPS

Continued from page 24

there is greater concentration in our present-day operating centers.

But for the most part they live in the many communities we serve, even though they work somewhere else. For this reason we have experimented with the idea of bringing together on a community basis the telephone employes who live there.

Out of these early experiments we have organized what we call resident employe committees throughout our territory. We have now some 125 of these groups, which last year held some 250 meetings.

These meetings were held during the evening hours, usually with dinner, where our local management teams conducted discussions on all phases of our operations in the community involved.

These committees provide a partial answer to our lack of operating contacts in these dial communities. We are now convinced that as long as we have employes living in these communities, even though they work many miles away, a reasonably good substitute can be found for the direct contacts we had in the past.

But then there are communities where we have no representative whatever. We have converted to dial, the operator office and the business office are many miles away and not a single telephone employe lives there.

To so isolate a community is foreign to our present-day concept of community living. As a result we have been trying to meet this new condition in various ways. We have encouraged some of our plant employes to move into these communities with only moderate success. We have experimented with a roving manager, who would visit these isolated communities periodically in an effort to build up some personal contacts with key people and customers visited at random.

Another experiment is the telephone town meeting.

The town meeting—telephone style—was conceived as an attempt to stem the diminishing number of contacts between the telephone company and the public in small communities where dial service has replaced the operator.

These meetings are conducted by the local management team whose headquarters are in a larger city some miles away. The place is usually the town hall or some central gathering place. The audience includes the residents in the town who have received personal invitations and who also enjoy helping to organize the evening.

Bouquets and brickbats alike are tossed back and forth. Citizens seem to enjoy these meetings and have said so. Telephone people learn a lot. Friendships have developed between telephone people and townspeople who have never had a chance to meet before.

And so our telephone town meeting plan seems to be opening up further opportunities for us to combat the suspicion of bigness and to offset the loss of personal contact that comes with mechanization.

Bigness and mechanization stand out as the main obstacles in our industry as we try to make a better impression in the community.

I don't believe we should think of our corporate community living solely as taking part in community affairs, making contributions, or belonging to service clubs—even though all of these activities are important.

I believe we must look at community living as the over-all impression our service, our operations and our citizenship make on the community.

On this basis I would like to suggest four broad principles on which a more successful job of community living might be based.

(1) *Encourage the idea that each local employe group has a responsibility for making a good impression in the community.* To accomplish this, local management will need authority delegated to it. But it will also require the urge to exercise the authority so delegated without fear of criticism from up above.

This is important, for it seems to me that the greatest task of any management today is that of developing in its people a spirit of enthusiasm and loyalty, a desire to achieve an outstanding performance and an urge to develop genuine pride in the business. In my mind, there is nothing that reveals to the public the actual worth of an organization any more than the spirit and zeal and attitude of its employes.

(2) *Develop better ways of determining just how we are regarded by the community.* From our own internal measurements on quality and production we have a pretty good idea of our performance. But shouldn't we to a greater degree supplement these with what our customers and our communities think?

Through customers' letters, newspaper comment, and special studies of employe and public opinion, we can learn a whole lot more on how we are regarded by the customers and communities we serve.

It is this kind of information, it seems to me, that will encourage local management to feel responsible and to take action toward improving the community viewpoint.

(3) *Develop specific organization plans locally.* The more experience I have with this problem of community living the more I am convinced that it cannot be imposed from above.

But it is most stimulating to see how local people, once given the freedom to go ahead, will want to act in the community's behalf.

This has been evident over and over again in the actions taken by our local people to organize in such a way that maximum result is obtained by the aggregate endeavors of employes and management.

(4) *Communicate effectively with the community.* This is the way the

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community knows what we are doing and what we are planning. It is the way to avoid misunderstandings which so frequently cause our difficulties. In this connection the employes' influence is tremendous and they should be kept well informed to participate in the communication job.

These are some ideas on corporate community living. While many of them apply to the telephone business, I'm sure the general principles are applicable everywhere. I hope you so regard them because the idea of community living is growing and becoming more a part of fundamental policy for all modern enlightened corporations.

Obituaries

HOBSON C. CORR, 52, died on May 12, in New Orleans, La., following a lengthy illness. Mr. Corr had operated the Moundville (Ala.) Telephone Co., for 28 years.

Mr. Hobson is survived by his widow, Mrs. Kathleen South Corr; a daughter, Patricia, a brother, Clayton Corr of Oneonta, Ala., and his mother, Mrs. S. W. Lucas of Oneonta.

•

BERT R. OVERCASH, 72, of Lincoln, Neb., died on May 18 after nearly 47 years in the telephone industry. His first employment was with the Nebraska (Bell) Telephone Co. in 1903 as manager at Dórchester. Later, in 1910, he moved to Crete to become manager of the Crete Telephone Co.

Mr. Overcash joined The Lincoln Telephone & Telegraph Co. at Beatrice in 1912 as a solicitor and later became manager at Beaver Crossing before moving to Seward in 1918 as manager. In 1920 he became a combinationman at Lincoln and in 1933 was made district sales representative at Lincoln. He was appointed service engineer in 1946 and retired in 1950.

He was a charter member of the Frank H. Woods Chapter of the Independent Telephone Pioneer Association.

Survivors are the wife, Mary E. of Lincoln; and three sons, Ray of Colorado Springs, Colo., Orin of Edmond, Washington, and Bert L. of Lincoln.

•

LEON A. DOUGHTY, president of C&D Batteries, Inc., of Conshohocken, Pa., and Attica, Ind., died on May 18 after suffering a heart attack at his home in Glenside, Pa. He was 70 on March 1.

Mr. Doughty, who together with Frank S. Carlile, founded the firm "Carlile & Doughty" back in 1906, was active in the company up to the day of his death. Mr. Carlile is company vice president and treasurer.

L. A. DOUGHTY

Mr. Doughty and Mr. Carlile had been lifelong friends and business associates. They met when both were students in Philadelphia's Central Manual Training High School studying electricity.

Their first contract, while still students, was for converting the high school from gaslight to electricity, having formed their first "partnership" with the help of 500 printed business cards ("Carlile & Doughty, Electrical Contractors"). As teen-agers, they wired a number of Philadelphia stores, plants, and apartment houses during the early part of the century.

A pioneer in the electrical field, Mr. Doughty, in partnership with Mr. Carlile, entered the automobile age in its infancy as distributors for electrical components of early cars.

Further expansion into the company's present comprehensive scale of heavy-duty industrial batteries was launched in 1944, once again reflecting the urge of Messrs. Doughty and Carlile to pioneer.

The company introduced a high-capacity battery for cycle service having 20 per cent greater capacity than existing standards, plus a stationary battery for telephone service in a transparent, shock-resistant case.

Born in Absecon, N. J., Mr. Doughty had been active for the past 30 years in the American Association of Battery Manufacturers and was treasurer and a director of that group.

Surviving are his wife, the former Marion Kirby; a daughter, Mrs. Virginia Elizabeth Ebner of Collegeville, Pa.; a son, Stewart E. of Creamery, Pa.; and four grandchildren. Stewart Doughty, quality control supervisor for C&D Batteries, was recently elected assistant secretary of the company.

•

EDWIN G. BREHM, 35, engineer with The Lincoln (Neb.) Telephone & Telegraph Co., died suddenly May 22.

Mr. Brehm joined the company in 1942 as a printing machine operator in the accounting department. He became a draftsman in the engineering department in 1942, an engineering assistant in 1935 and was appointed an engineer in January 1957. He was responsible for drawing engineering specifications for installations of dial service at CDO exchanges.

Washington State Installs Millionth Telephone

Washington State's growth was pointed up on May 22 in a ceremony at the State Capitol in Olympia, commemorating the installation of the millionth telephone in the state.

Governor Albert D. Rossellini, on May 20 accepted a bronze, non-working telephone model from the 60 telephone companies of Washington, to mark the installation of the one millionth telephone in the state.

After accepting this symbol of progress the Governor turned it over to Mrs. Ida N. Burford, curator-director of the State Capitol Historical Association Museum, Olympia, where it will remain a permanent exhibit.

Don G. Abel, chairman, and Commissioner Francis Pearson, of the Washington Public Service Commission, were with the Governor at the ceremony. Presentation of the milestone telephone was made by William F. Barnett, president of the Washington Independent Telephone Association and president of the Vashon Telephone Corp., who acted for the state's telephone industry.

Others participating included Andrew J. Zimmerman, executive director of the Washington Independent Telephone Association; Ray Dalton, vice president, West Coast Telephone Co.; Ben Bowling, vice president and general manager, Pacific Telephone & Telegraph Co.; W. R. Jarmon, president, General Telephone Co. of The Northwest, and Arwin Davies, assistant vice president, Pacific Telephone & Telegraph Co.

The Yeast in the Loaf

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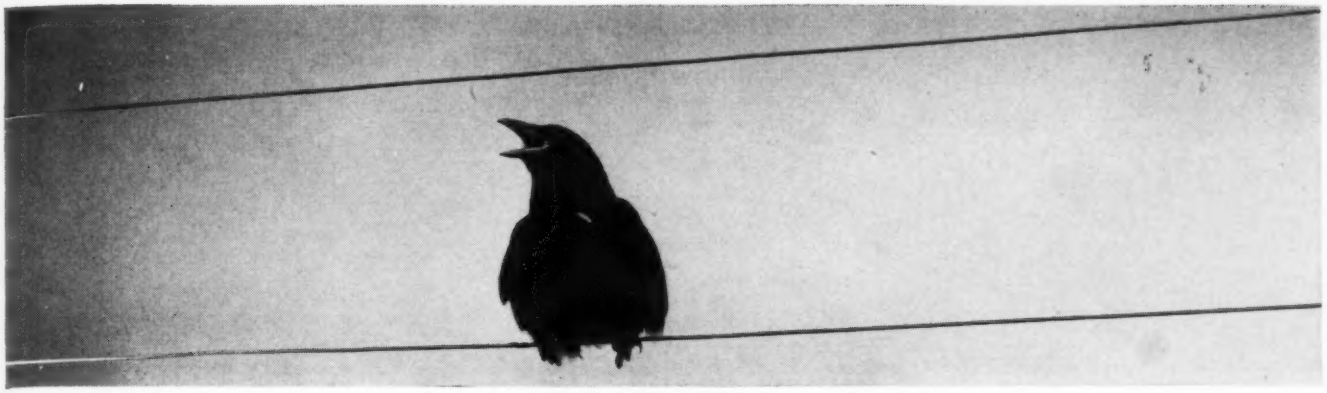
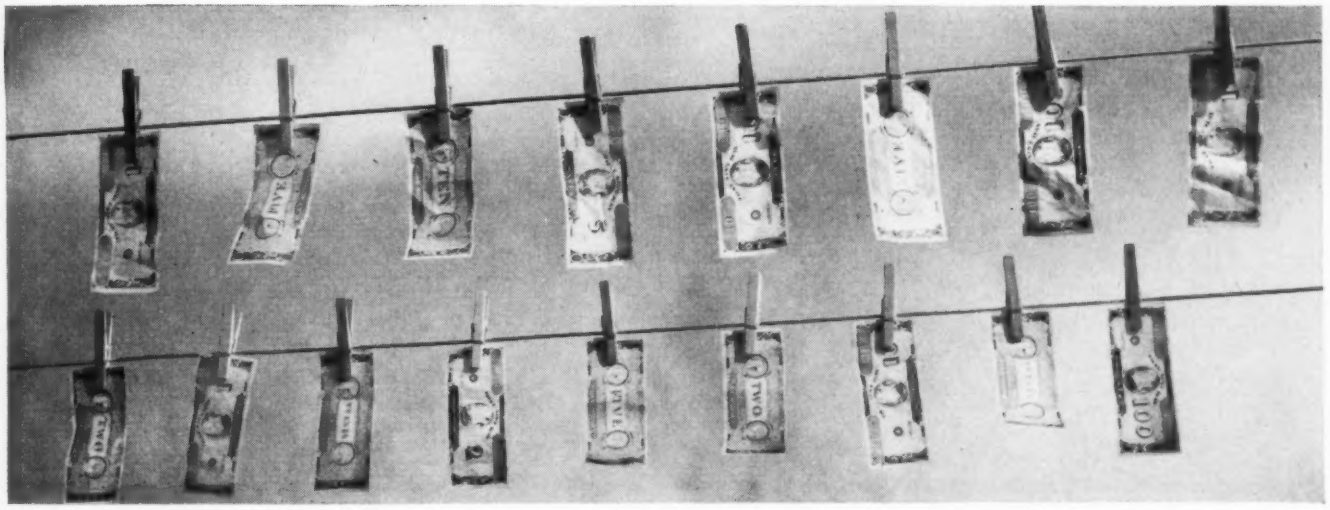
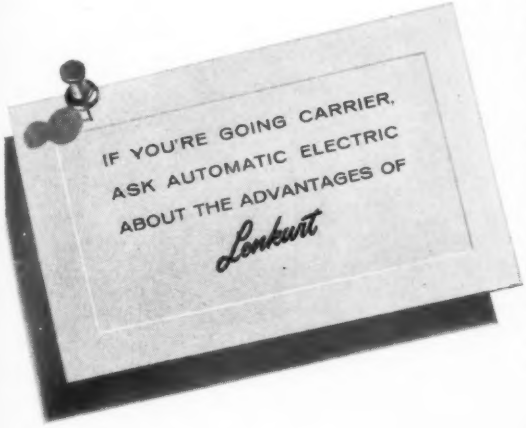


can carry more toll revenue



with LENKURT carrier



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As the distributor of Lenkurt equipment, Automatic Electric offers "carrier without complications"—engineered, furnished and installed.

Whether you're thinking about expanding right now or at some future date, one of our carrier engineers can give you the whole story. Why not drop us a line right now? Automatic Electric Sales Corporation, Northlake, Illinois. *In Canada:* Automatic Electric Sales (Canada) Ltd., Toronto, Ontario. *Offices in principal cities.*

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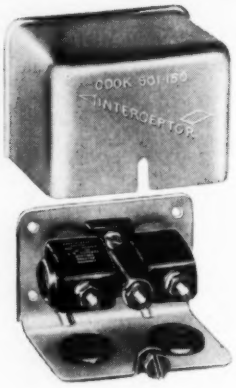
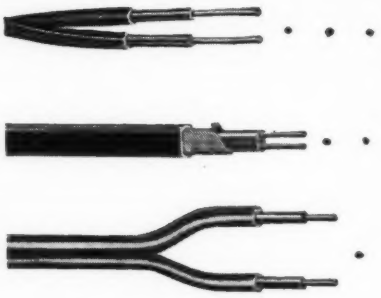


The Cook Interceptor is a fuseless, carbon-to-carbon arrester which grounds power cross surges and lightning. Minigap or Mytigap arresters are mounted in a moisture-resistant and dirtproof receptacle. A product of COOK ELECTRIC COMPANY.



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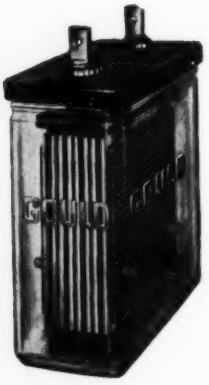

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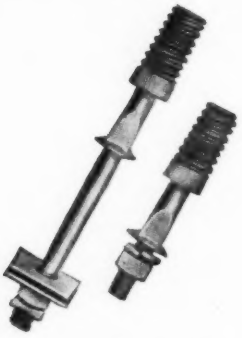

Joslyn R.E.A. Standard Wood Cob Steel Pins—Joslyn J1187 ⅝-inch Steel Pin is assembled with a J139 lock washer and square nut; the Joslyn J1188 pin has two 2" x 2" x ⅛" square washers, nut, and M-F locknut. Cobs are of seasoned Oak or Locust boiled in paraffin. Pins are forged, high carbon, open-hearth steel, hot dip galvanized.

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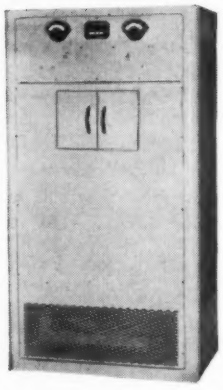

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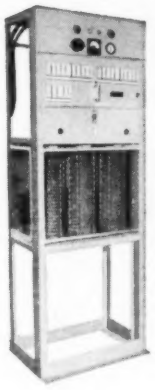

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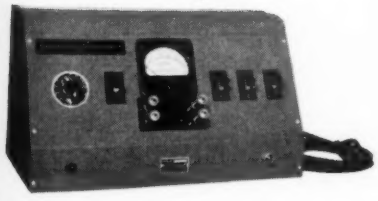
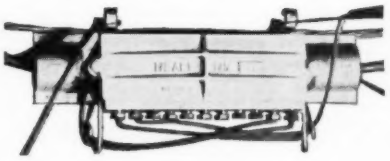


Shallcross #692-A Transmission Test Set. Provides a convenient and an inexpensive means of measuring transmission line losses in 600 ohm lines, switchboard circuits and other equipment. Measures comparative capacitance of condensers, and tests the balance of repeating coils and relays. SHALLCROSS MFG. COMPANY.



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You are invited to ask for a Prospectus describing these Debentures and the Corporation's business. Any underwriter qualified to sell securities in this state will be glad to give you a copy.

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May 21, 1957.

REA LOANS APPROVED

Continued from page 19

The company plans to use these funds to build additional line, and to cover construction costs which have increased since approval of its first loan.

The two loans totaling $184,000 will make possible new and improved service to 456 rural subscribers.

John W. Eckhoff is both president and manager of the Rib Lake company.

•

Western States Telephone Co., Inc., Holbrook, Ariz.; $2,932,000, first loan (May 15).

The borrower plans to furnish service for the first time to 2,607 new subscribers and to improve service for 3,341 existing subscribers. The proposed new system will consist of three non-contiguous areas in the three states. The present subscribers include 1,514 farm families and ranchers receiving dial and common battery service from the Western States company in New Mexico and Texas, and 1,827 who receive common battery and magneto service from the Navajo-Apache Telephone System of Holbrook, Ariz. The Western States company plans to acquire these properties as a nucleus for the Arizona portion of its system.

With the REA loan, the company expects to construct automatic central offices at Holbrook, Snowflake, St. Johns, Springerville, Show Low, and Pinetop in Arizona, at Fabens, Tex., and in Truth or Consequences, N. M. The present automatic facilities in Hillsboro, New Mexico, and Ft. Hancock, Tex., will be retained for use. The Holbrook exchange will be housed in a new building which will also provide space for commercial office and toll facilities.

The borrower will furnish its own toll service for the Arizona subscribers. Service without toll charge between the two New Mexico exchanges, and between Pinetop and Show Low, Ariz., is included in the company's present plans.

A portion of these funds will be used for refinancing the borrower's outstanding indebtedness.

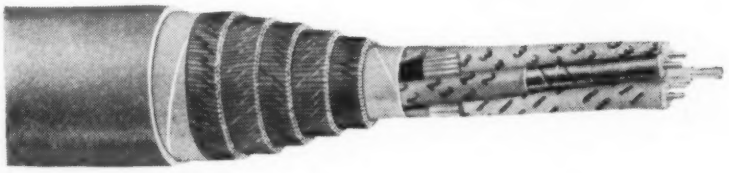
Carl H. Jennings is president of the Western States Telephone Co., and Edward J. Jennings is the manager.

•

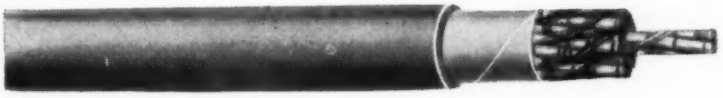
Triangle Telephone Association, Havre, Mont.; $196,000, fourth loan (May 16).

The Montana borrower plans to use

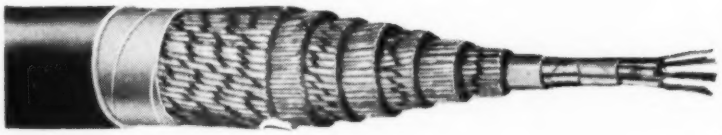
(Please turn to page 49)



Composite Co-axial and Audio Long Distance Telephone Cable



60 Channel 14 Pair Carrier Telephone Cable



Paper Covered Audio Star Quad Long Distance Telephone Cable

Telephone Cables for every type of LONG DISTANCE SYSTEM designed, manufactured and installed by

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construction and maintenance DIGEST

- 25-year battery
- 3 ways better
- Two for one
- Plastic armor
- Slim conductors

Published regularly to help you get the most out of your materials and supplies dollar

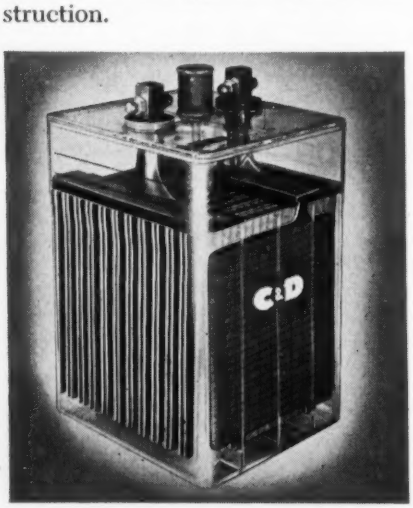
by Walter G. Baum, Office Mgr. and Inside Sales—Kansas City

Although I'm from Missouri, nobody has to show me how much careful attention is paid to your supply needs at Stromberg-Carlson. You might be interested to hear why. Well, these orders of yours for parts and equipment, actually help further the science of telephony. We're up to our neck in this industry as a full-time job. We appreciate your support—because your supply business plays a major role in helping us continue our research for new and better telephone equipment—**for you.**

Battery will still have its pep when 1982 rolls around

It will last 25 years—in full float service! That's the life expectancy of C & D's PlastiCal (lead-calcium grids) telephone battery.

You get this extra-long, trouble-free operation because C & D Batteries, Inc. use an exclusive suspended and supported plate construction.



In full float service, this telephone battery stays on the job a quarter of a century.

Illustrated here is a typical C & D telephone battery with a 660 A.H. capacity. When ordering this 25-year battery, specify PCE-660.

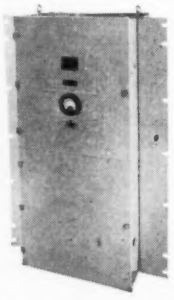
When you find that a 14-year expectancy meets your needs, you can get dependable operation from a C & D PlastiCell (high-tensile lead alloy grids) battery. For a PlastiCell with capacity of 660 A.H., specify CE-23.

You can order either of these C & D telephone batteries, plus other capacities, from your Stromberg-Carlson representative. Ask him about extra-long-life power supply with C & D Batteries.

Raytheon Rectichargers® Battery Chargers—Complete Line 3-400 Amperes

Entirely redesigned new Raytheon Rectichargers offer three major improvements:

1. ±1% no-load to full-load stabilization prevents battery overcharging, minimizes gassing, lengthens battery life.
2. No audible hum at output terminals.
3. Most compact units on the market—wall or rack mounted.

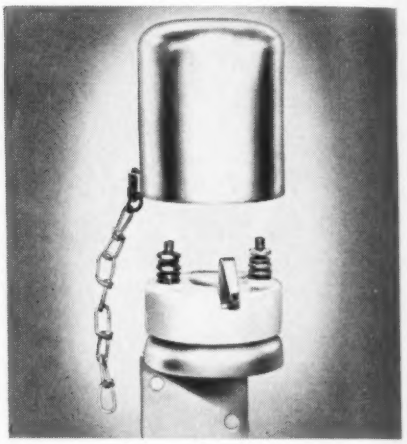


New Raytheon battery chargers feature ± 1% no-load to full-load regulation

Automatically compensated for rectifier aging, Rectichargers offer high efficiency, completely automatic regulation. No moving parts and self-protecting circuitry assure minimum maintenance, long life. Single and three phase, 3-400 amps.

Convenient drop wire connector

You install Cook Electric Company's "Testerm" Drop Wire Connector where a subscriber's drop is terminated.



For pole or crossarm installation.

This connector provides terminating facilities for connections to the line wire, and—on the same studs—terminate facilities for connecting the drop wire. Thus when your lineman is testing, he can easily disconnect the drop from the line and quickly reconnect it.

The porcelain base and metal cover are detachable from the mounting bracket by a bayonet locking arrangement of 3 Everdur studs. Wire entrances are sealed by a neoprene gasket.

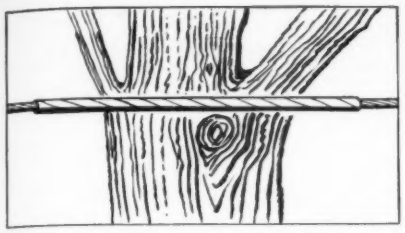
For convenience and economy, specify Cook "Testerm."

Your Stromberg-Carlson representative can offer prompt delivery on your order.

Long-lasting protection at low cost

You get effective, long-lasting, inexpensive protection of covered cables or conductors with Preformed Plastic Line Guards.

Easily installed by hand, these line guards protect against abrasion by trees, buildings and other obstructions. They fit as securely as metal line guards.



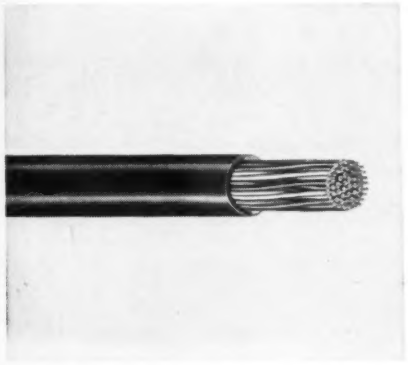
Standard stock sizes in 6-foot lengths. Other lengths available on order.

PLP Plastic Line Guards are available from stock in standard 6-foot lengths. Or you may order them in 3-foot, 9-foot and other sizes.

Your Stromberg-Carlson representative can offer prompt delivery on your order.

Low Cost . . . Easy To Install Type 1255 Inside Wiring Cable

To get economy plus ease of installation, specify Ansonia Inside Wiring Cable, Type 1255.



Economical and rugged Ansonia Type 1255 Cable. Supplied in 22 and 24 gauge vinyl-insulated fully color-coded brown (or ivory when specified) vinyl jacket with #29 rip wire.

Its small diameter conductors are insulated with 12 mils of color-coded plasticized polyvinyl chloride. Conductors are paired and cabled with a steel rip wire to facilitate stripping of the tough exterior plastic jacket.

This Ansonia Wire & Cable Company product is available in brown or ivory.

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these funds to extend dial service to serve 186 rural subscribers. One hundred and seventy-nine of these farms and ranches in the expanded territory do not have telephones. As a nucleus for this service, the association proposes to acquire 24 miles of toll line serving seven toll stations now operated by Mountain States Telephone & Telegraph Co. It extends from Winifred to Hilger, Mont.

Proposed new construction includes an automatic central office at Winifred.

REA loans to this cooperative amount to $1,625,000, which will enable it to provide new and improved service to 2,039 rural subscribers. Ten of the 13 proposed exchanges are in operation, furnishing dial service to around 1,100 subscribers.

Thomas Staff is the president and Harold Ebaugh is the manager of the Triangle Telephone Association.

New Mexican Law Permits Mobile Radio-Telephone

Mobile radio-telephone service throughout Mexico has been made possible by the granting of rights by the Ministry of the Interior to establish and use such service for 50 years, it was recently reported.

The action was made federal law by its publication in the "Diario Official" (Official Gazette), in which all new laws and changes in existing statutes must be published to make them legal.

Ryder Named District Head Of Pennsylvania Company

The appointment of Allan W. Ryder as manager of the Bangor district of the Commonwealth Telephone Co., Dallas, Pa., effective June 1, was reported by Colonel H. H. Butler, Commonwealth vice president and general manager. Commonwealth Telephone Co. operates a 10-district area with over 62,000 stations in a 4,597-square-mile area in eastern Pennsylvania.

Mr. Ryder of Portsmouth, O., formerly was vice president and general manager for the former Pennsylvania Community Telephone Co. at Bangor prior to August 1954 when the company was purchased by Commonwealth Telephone. Since October 1954, Mr. Ryder has been general plant superintendent for the Ohio Consolidated Telephone Co. with headquarters at Portsmouth.

As district manager at Bangor, Mr. Ryder will replace Arthur De Haven, district manager for the last two and one-half years, who is planning to retire from the telephone field after 45 years of active service with the industry. Mr. De Haven spent many of these years with a Bell company and with IT&T, seeing service with the latter in Cuba and Chile.

A. W. RYDER

Mr. Ryder first went to Bangor with what was then Blue Mountain Telephone & Telegraph Co. At various times in his connection with the industry he has been district manager at Elizabethville and later plant superintendent for The Blue Mountain, Southern and Wiconisco companies, all located in Pennsylvania and now a part of Commonwealth. For two years, he was executive secretary of the New York State Telephone Association, and was assistant to the president of the president of the Southern Continental Telephone Co., Cookeville, Tenn.

Weiler Elected President of Southern Nevada Company

H. G. O. Weiler, who has been vice president and general manager of the Southern Nevada Telephone Co., Las Vegas, for the past three years, has been elected president of the company. He succeeds the late Sam Lawson who died last March.

Mr. Weiler went to Las Vegas in 1954 and initiated a dial conversion and expansion program which has resulted in an increase in plant investment from 2 million dollars to more than 12 million dollars. During this period the stations served by the company grew from 17,000 to in excess of 32,000.

Prior to joining the company, Mr. Weiler had been retained as a consultant on utility matters by a number of state regulatory bodies and private utilities; also he had participated actively in NARUC and telephone association programs.

Allye Lawson, son of the former

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When it comes to leather goods for linemen or electricians, the name Klein today stands for the highest in quality as it has since the first wires were strung.

In Klein-Kord, too, Klein offers to industry the first specially woven fabric for safety straps—a fabric designed to permit the use of a tongue-type buckle without the risk of slitting or ripping under severe strain.

Now in Nylon Klein-Kord safety straps Klein still leads with the newest in safety equipment specially designed for use by utilities wherever power or communication lines are strung.

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president, is chairman of the board of directors and treasurer of the company. Leo McNamee, Las Vegas attorney, is secretary, and Gilbert O. Thomas, controller.

Gene B. Heywood, partner of Dean Witter & Co. of Chicago, and M. M. Sweeney, senior vice president of the Pioneer Title Insurance & Trust Co. of Las Vegas, were named directors to fill existing vacancies.

Modern Telephone Center Installed at Mich. Airport

The new telephone center at Willow Run airport, near Detroit, is finished, Michigan Bell Telephone Co. spokesmen announced recently. The center is the first completed section in the $670,000 remodeling project currently underway in the airport terminal building.

The new $30,000 center contains 15 coin-operated telephones, each in its own special booth, and each in one of four colors—ivory, cherry red, moss green, or rose beige. The booths are special ones, custom-designed for this center.

Jumbo-size, the special booths allow plenty of room for travelers' luggage —as well as their elbows and knees— and have foam-cushioned swivel chairs. A package and writing shelf extends around two walls of the booths, which have porcelain-enameled steel walls and an acoustic mesh ceiling.

American Airlines Stewardess Billie J. Linsig, from LaGuardia Field, N. Y., tries out one of the jumbo-size booths in new Willow Run telephone center (near Detroit).

The two-piece doors of the booths, set at saw-tooth angles to the wall, have full-length glass panels in black aluminum frames. The booths line two walls of the telephone center's acoustic-ceilinged alcove, which is decorated in stark white and black, with accents of mustard and royal blue.

The above auto chassis is serving as an improvised pole truck in line service for the Okaw Commercial Telephone Co., Okawville, Ill. Morris Kugler, manager of the Okaw company, says this type of hauler is easily handled and loaded, and takes a lot of punishment as well. Two wheels and the old chassis, plus two cross-bars with end-pins welded on top of the frame, as load-holders, form the truck. A 2-inch pipe, welded to the frame, serves as a hitching and pulling tongue. Its length can be determined by the length of poles to be hauled.

Michigan Bell predicts the 7 million people who pass through Willow Run each year will make some 1,300 calls a day at the new center, half of the total volume of Ypsilanti's paystation calls. Almost two-thirds of the Willow Run calls are made to Detroit. Most of the others go to various places in the nation, with other points in Michigan accounting for only 6 per cent of the total.

In addition to the new telephone center, public telephones are being installed at both ends and in the center of each concourse "finger." Opening of the new telephone center precedes the completion of the rest of Willow Run's renovation by about six weeks.

Contractor Uses Telephone To Cut Building Costs

John E. Birch & Co. of Berwyn, Ill., a contracting firm, is using automobile telephones to help cut building costs.

The telephones are installed in vehicles of company executives, and are used to order new materials from building sites, and to move crews to new jobs when they are prevented from working because of rain or material shortages.

Telephone bills for each completed home average about $100, according to John Birch, president, but "several times that amount is saved because no time is wasted."

Sounds Simple, But —

"The secret of success is constancy of purpose."—DISRAELI.

Answers to Questions On Page 30

(1) The operator passes the order to each tandem, intermediate, or circuit request operator encountered as "Aircraft Flash (called place)." However, if the tandem operator is to establish connection to the inward board at your office, pass the order simply as "Aircraft Flash."

(2) Aircraft Flash calls are given the same precedence as Priority 2 Emergency calls but are handled in accordance with the special procedures devised for handling Aircraft Flash calls.

(3) Yes.

(4) "A FL" is used for abbreviating "Aircraft Flash."

(5) The calling place and number, the name of the place in which the Filter Center is located in the "To PL." space, and "A FL (reporting area name)" or "A FL (called no.)" in the "To No." space.

Standard types of COMMUNICATION EQUIPMENT

Radio Engineering Products is currently producing a number of types of equipment, electrically and mechanically interchangeable with standard Bell System apparatus. Complete equipments of the following types, and components for these equipments are available for early delivery.

CARRIER-TELEPHONE EQUIPMENT

C5 Carrier-Telephone Terminal (J68756). A kit for adding a fourth standard toll-grade channel to existing C systems is available.
C1 Carrier-Telephone Repeater (J68757)
121A C Carrier Line Filter and Balancing Panel
H Carrier Line Filter and Balancing Panel (X66217C)

CARRIER-TELEGRAPH EQUIPMENT

40C1 Carrier-Telegraph Channel Terminal (J70047C)
140A1 Carrier Supply (J70036A1, etc.)
40AC1 Carrier-Telegraph Terminal
Grid Emission Test Set (J70047D1)

VOICE-FREQUENCY EQUIPMENT

V1 Telephone Repeater (J68368F)
Power Supply (J68638A1)
V1 Amplifiers (J68635E2 and J68635A2)
V3 Amplifier (J68649A)
V-F Ringers (J68602, etc.)
Four Wire Terminating Set (J68625G1)
1C Volume Limiter (J68736C)

D-C TELEGRAPH EQUIPMENT

16B1 Telegraph Repeater (J70037B)
10E1 Telegraph Repeater (J70021A)
128B2 Teletypewriter Subscriber Set (J70027A)
Composite Sets, several types

TEST EQUIPMENT

2A Toll Test Unit (X63699A)
12B, 13A, 30A (J64030A), and 32A (J64032A) Transmission Measuring Sets
111A2 Relay Test Panel (J66118E)
118C2 Telegraph Transmission Measuring Set (J70069K)
163A2 Test Unit (J70045B)
163C1 Test Unit (J70045D)

COMPONENTS AND ACCESSORIES

255A and 209FG Polar Relays
Repeating Coils, several types
Retard Coils, several types
184, 185, 230A and 230B Jack Mountings

VACUUM TUBES

101D, F & L	323A & B	396A
102D, F & L	328A	398A
104D	329A	399B
205D	336A	400A
274A & B	350A & B	408A
281A	355A	120A Ballast Lamp
305A	393A	121A Ballast Lamp
310A & B	394A	

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Dow Plans Matching Grants To Aid Education

A new matching grant program of aid to higher education was announced on May 15 by The Dow Chemical Co.

Effective July 1, Dow will match its employes' contributions to educational institutions up to $100 a year per employe.

In addition, the company announced that it will make approximately $300,000 in other funds available to education for the 1957-58 academic year as part of its continuing aid-to-education program.

Explaining the matching grant plan, Dr. Leland I. Doan, Dow president, said the company believes it "will tend to encourage increased individual support of the nation's colleges and universities."

The program is open to all regular hourly and salaried employes of the company and its wholly-owned subsidiaries in the United States. An employe need not have attended the institution he wishes to assist.

Employes may make unrestricted gifts or they may specify the purpose for which their money is to be spent —such as endowments or funds for faculty and staff salary increases. Dow's matching grant is to be used for the same purpose as that designated by the employe.

The company will match contributions to any accredited four-year college or university in the United States.

Dow's over-all gifts to education in the 1957-58 academic year will include:

—$167,150 in grants to 53 institutions for graduate fellowships and undergraduate scholarships and to two educational foundations for assistance to deserving students.

—$142,850 in grants to educational institutions and foundations, mainly for use in expansion and operating programs, and for other educational activities.

Besides these grants in aid the company expects to make another $300,000 available to colleges and universities during the next 12 months for specific research projects expected to be beneficial to Dow in the chemical field. This includes consultative research for the company by college faculty members.

The grant-in-aid programs provide for the following:

(1) Fifty-two fellowships of $2,500 each, two of $2,000 each, three of $1,500 each and one of $1,000—a total of $139,500 for 58 fellowships at 37 institutions.

These will be used to assist outstanding graduate students, chiefly those completing study for doctor's degrees in chemistry, physics, chemical engineering and metallurgy. Recipients are chosen by the schools involved.

Included in this list are two special fellowships of $2,500 each—the Edgar C. Britton Fellowship at the University of Michigan and the William Reed Veazey Fellowship at Case Institute of Technology. These honor Dr. Britton, former director of organic research at Dow and now a consultant to the company, and Dr. Veazey, a retired Dow director who was long active in its research activities.

Also included is a special fellowship of $1,000 at the Delft Technical College at Delft, The Netherlands, which last year became the first European school to receive a Dow grant.

Fellowship grants to be offered for the first time this year are one in chemistry at Harvard University, one each in chemical engineering at Massachusetts Institute of Technology and Stanford University and one in chemistry at Texas Agricultural & Mechanical College.

(2) Forty-four scholarships ranging from $450 to $1,700 for a total of $25,650 at 25 institutions.

The recipients are to be selected by the schools themselves from outstanding sophomores, juniors or seniors in chemistry, physics, chemical engineering or metallurgy. Purpose is to encourage students to choose these fields for careers.

Scholarship grants being provided for the first time this year are two in paint chemistry at North Dakota Agricultural College, two each in engineering at Case Institute of Technology and the University of Cincinnati, one each in chemistry at Texas Christian University, Louisiana State University and Tulane University and one each in metallurgy at Cornell University, University of Illinois, Michigan College of Mining & Technology, Michigan State University, Missouri School of Mines, Ohio State University, University of Pennsylvania, Purdue University and Rensselaer Polytechnic Institute.

Another new scholarship grant will enable a qualified high school student selected by the University of California at Berkeley to do summer work as a laboratory assistant at that institution.

Hillsdale College, Hillsdale, Mich., has been allocated a sum for use as a general scholarship or special grant.

(3) Assistance to deserving students in two fields through a $1,500 fellowship grant to the American Foundation for Pharmaceutical Education and a $500 scholarship grant to the Foundry Educational Association.

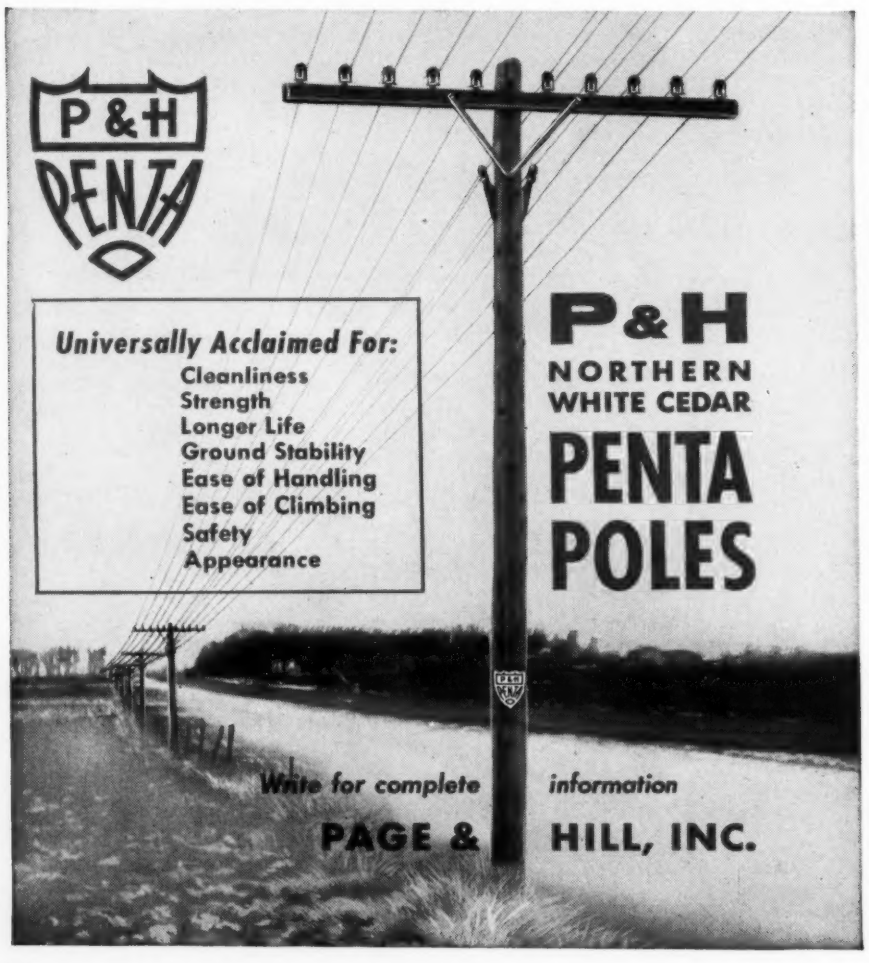
(4) A $20,000 grant to Case Institute of Technology, where the company's founder, Herbert H. Dow, was educated.

(5) A $20,000 grant to the Michigan Colleges Foundation, comprising 14 liberal arts colleges.

(6) Grants of $11,550 to the University of Michigan's Entomological Study and $10,000 to the university's Foundation for Research on Human Behavior.

(7) A $10,000 grant to Rice Institute for undesignated research.

(8) A $3,300 allocation for a schol-



arship program in Texas high schools and colleges.

(9) A total of $68,000 in miscellaneous grants to educational institutions and programs.

Union Carbide and Three Divisions Change Names

The name of Union Carbide & Carbon Corp. has been shortened to Union Carbide Corp., it has been announced by Morse G. Dial, president. Stockholders approved this change at the annual meeting of the corporation.

The names of three divisions of Union Carbide have also been changed, among them being Linde Air Products Co. which is changing its name to Linde Co.

Linde Co. is one of the nation's leading oxygen producers. Its principal oxygen plants are located at Kittanning and Essington, Pa.; Ashtabula, O.; East Chicago, Ind.; and Berkeley and Fontana, Calif. In addition to industrial gases, Linde makes numerous types of manual and automatic equipment for cutting, shaping, conditioning, heat-treating and welding of metals.

Two other major products of the Linde Co. are calcium carbide and acetylene, used by both the metals and chemicals industries.

Robert Frost, vice president of National Pneumatic Co. Inc., and president of Bright Star Industries, on May 7 was elected president of the 52 Association of New York Inc., a voluntary group of 2,000 men and women who, since 1945, have served more than 250,000 hospitalized and disabled servicemen and veterans.

FTL Names Chipp to Post

The appointment of Rodney D. Chipp as manager of Systems Engineering for the radio communication laboratory of Federal Telecommunication Laboratories, Nutley, N. J., was announced recently by President Henri G. Busignies. FTL is the American research division of International Telephone & Telegraph Corp.

IBM Names Schmit to Post in Data Processing Division

International Business Machines Corp. has appointed Harold E. Schmit manager of manufacturing control for its data processing division, with headquarters in New York City.

Mr. Schmit will coordinate data processing manufacturing control activities of the company's western, midwestern, and eastern regions. He was formerly manager of the company's sales office in Fort Wayne, Ind.

Footing the Bill

"'What you ask is going to cost somebody a lot of money. Are you willing to pay the bill?' This answer was given by a government official to a group of citizens who had appeared to ask for a certain tax-financed project. His frank reply set them back on their heels and after some discussion among themselves they withdrew their request."—*Dillon (S. C.) Herald.*

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POLE TOPPERS

Actual size 15" dia.

Those neat appearing, protective pole roof tops that are easy to handle — easy to apply. POLE TOPPERS contain 5% Penta.

Your own linemen can make an application in LESS THAN A MINUTE, once in position. Use POLE TOPPERS for all standing poles — for new poles or newly cut poles — for poles in the yard.

POLE TOPPERS . . . the most inexpensive and satisfactory preservative ever devised for successful, permanent use. The Price is but $1 each. Shipped in cartons of 1 Doz. weighing 13 pounds packed. Why not sample POLE TOPPERS and prove their value to your company?

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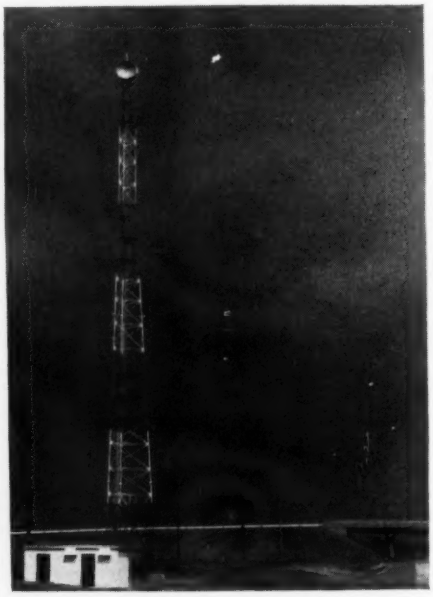
GE Provides Communications Network for Highway Safety

The nation today is engaged in the greatest highway construction boom of all time, but before cars can skim over newly-laid strips of concrete, effective communications must first be provided for law enforcement officers and maintenance crews who will keep the roads safe.



Microwave radio towers such as this one, located near South Bend, Ind., relay radio signals traveling in line-of-sight paths along the Indiana Toll Road. Placed strategically at a few points along the road, the towers eliminate the necessity for costly wires and poles, which, in other forms of communication, would have to be strung and mounted over the entire route. Only seven towers are used in the Indiana system.

Such a communication system is now in operation along the Indiana Northern East-West Toll Road. Extending in both directions from a control center near South Bend, the combination microwave-VHF system is providing complete integration of mobile radio units, telephones and teletypewriters located at various points of the road from one end to the other.

The system was engineered by the General Electric Co. at a cost of a half-million dollars. In all, G-E provided seven microwave stations, 10 VHF base stations, a dozen fixed station units for toll plazas, and 65 mobile radios for use in police cars, maintenance vehicles, tow trucks and snow-removal units.

Engineers of the General Electric communication products department, who designed the system to meet specifications of the Indiana Toll Road Commission, say the police-maintenance microwave hookup is 110 miles

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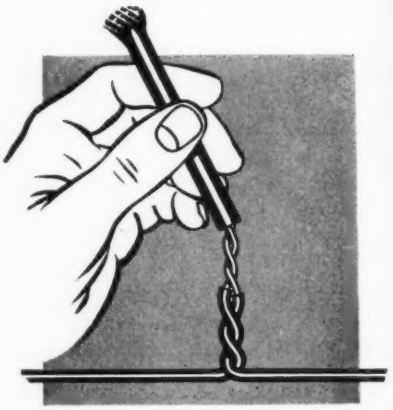

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Hickory, North Carolina

long. However, it provides instantaneous communication along all 157 miles of the twin-lane highway.

The contract for installation of the complex facilities was awarded to G-E in April of 1955. The first equipment went into use when the toll road opened last fall and the system was recently completed.

Each interchange in the system is equipped with a VHF base station for quick communication to five major maintenance buildings, housing offices, police personnel, maintenance trucks and road machinery.

All five maintenance buildings have two identical VHF circuits—one for patrol use and the other for maintenance.

Complete duplicate equipment has been installed for standby purposes, permitting automatic transfer to standby devices if some portion of the regular transmission fails.

Handsets and speakers are located at various places in each building. Speakers linked to the police radio system have been located in the patrol barracks and those containing maintenance messages are installed in maintenance areas.

Telephones in each of the maintenance buildings are linked with an automatic switchboard.

By dialing a code number, individuals using telephones in maintenance areas may be connected with the microwave transmission system.

The South Bend control center is operated by police personnel at all times. Lights on the control console indicate whether normal or standby equipment is in use at various points in the system. Light signals also show which base station receivers are in use and whether calls in some buildings are being originated with handsets.

Burfeind to Represent Lindsay Supply Co.

The Lindsay Telephone Supply Co., Cleveland, O., announces the appointment of R. H. Burfeind as telephone consultant. He was with the Automatic Electric Co. of Chicago, until his retirement on Dec. 31, 1956.

Mr. Burfeind will represent the Lindsay company at many state telephone conventions.

Worth Reconsidering

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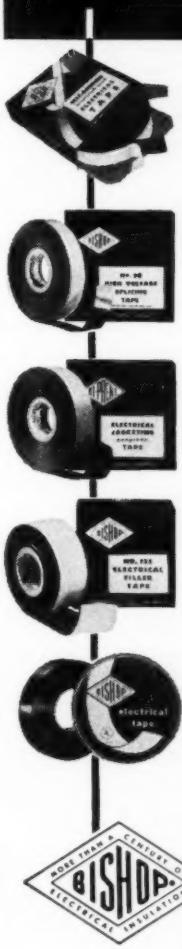

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Preformed Line Products Announces New Appointments

Thomas F. Peterson, president of the Preformed Line Products Co., Cleveland, O., announces the following personnel appointments:

R. F. Hollitz—assistant general manager of sales—headquarters staff functions.

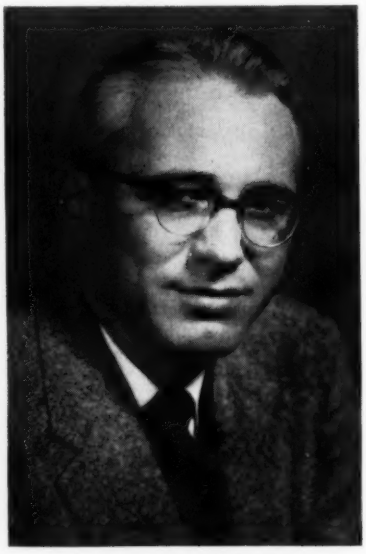
F. L. Irvin—assistant general manager of sales—representative-jobber functions.

J. W. Ramey—manager of operations—Palo Alto, Cal. plant.

R. A. Bell—district manager of sales—Cleveland district.

E. H. Brown—district manager of sales—eastern area.

D. B. Evans—district manager of sales—west coast.



R. F. HOLLITZ

R. F. Hollitz joined Preformed Line Products Co. in 1954 as manager-production control and director of purchases. Previously, he was with the central specialties division, King-Seeley Corp. as director of purchases in 1949, and in 1953 was a metal specification analyst for the Ford Motor Co. In addition to supervising the administrative aspects of the sales department, Mr. Hollitz will also coordinate the company's foreign licensing program.

F. L. Irvin is a graduate of Denison University, receiving a B.A. degree in 1942. Mr. Irvin spent the war years in U.S.N.R. as skipper of a sub-chaser with the rank of full lieutenant. He has been with Preformed Line Products Co. since 1948, having started in the sales department and worked his way up to the position of western area sales supervisor in 1956. Mr. Irvin's duties will concern the administration of company policies with respect to sales representatives, jobbers and distributors.

J. W. Ramey has been associated with Preformed Line Products Co.

F. L. IRVIN

since the inception of its plant at Palo Alto, Cal. in 1954. He held the position of production manager at that time. In his new capacity he will be in charge of the operation of the Palo Alto plant. Mr. Ramey retired from the U. S. Navy with the rank of rear admiral in 1953. He commanded destroyers throughout World War II in the Pacific Theatre, taking part in practically all major campaigns in that area. Mr. Ramey spent several years in the field of electronics, supervising development of an officers Radar Training School. He is a graduate of Stanford University and of the U. S. Naval Academy.

Edmund H. Brown has had over 15 years experience in various sales and purchasing positions. He was

J. W. RAMEY

formerly sales manager of the Frank M. Whiting Co., and general sales manager of Wilcox Crittenden & Co., Inc. and purchasing agent of the Young Corp. Mr. Brown joined Pre-

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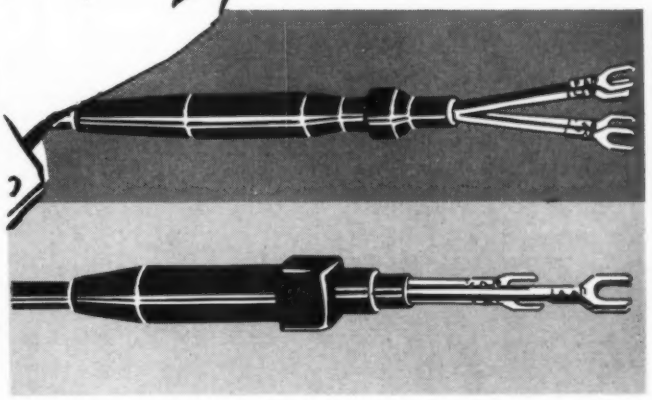

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formed Line Products in October 1956 as eastern regional sales supervisor with headquarters at Haddam, Conn. As district manager of sales—eastern area, his office will continue coverage of eleven eastern states comprising Maine, New Hampshire, Vermont, Rhode Island, Massachusetts, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Virginia, and Washington, D. C. Mr. Brown was graduated from Wesleyan University, receiving a B.A. degree in 1932.

R. A. Bell was formerly with the Reynolds Metals Co. from 1951 to 1956, starting as a sales trainee and later advancing to industrial sales representative. Mr. Bell joined Preformed Line Products in May of 1956 to organize the Cleveland district sales operations. The Cleveland office covers all or portions of Ohio, Kentucky, Tennessee and West Virginia. Mr. Bell is a graduate of Michigan State University.

D. B. Evans joined Preformed Line Products Co. in 1955 as manager of the Palo Alto, Cal. plant. From 1952 to 1955 he was a salesman for the K. M. Ryals Co., San Francisco. The west coast district sales office has been assigned the states of Washington, Oregon, western Montana, Idaho, California, Arizona, Utah and Nevada. Mr. Evans holds B.S. and E.E. degrees from Michigan State University.

AE International Announces Venezuelan Expansion

C. S. Cadwell, president, Automatic Electrical International, Inc., has announced the formation of a new engineering and sales subsidiary, Automatic Electric de Venezuela, C. A., with headquarters in Caracas.

The new expansion is being accomplished, Mr. Cadwell stated, in order to provide every possible assistance to the Venezuelan government in its large-scale plans to increase and improve the nation's communications. The new company will work closely with Automatic Electric International's present agent in Venezuela, Eckotel, C. A.

Mr. Cadwell will serve as president of the new subsidiary, in addition to his duties as president of the parent organization, Automatic Electric International. Philip M. McCullough has been elected vice president and general manager, and Alfred W. Peterson, vice president and treasurer.

An electrical engineering graduate of the University of Nebraska, Mr. McCullough has been with Automatic Electric as a key executive in its international activities since 1944, planning and managing a wide range of projects in Europe, the Far East and South America. Prior to this time he had served as vice president and general manager of the Mexican Telephone & Telegraph Co., as director of sales and service for General Motors Peninsular in Spain and north and west Africa, as chief of the Inter-American Communications Division of the Foreign Economic Administration, and as a consulting engineer. He is a member of the American Institute of Electrical Engineers (AIEE), the Export Managers Club, the Armed Forces Communications & Electronics Association, and the Pan-American Society of the United States.

Mr. Peterson received the degree of bachelor of science from Massachusetts Institute of Technology and the degree of master of business administration from the Harvard Graduate School of Business Administration. Following his service with the communications division of the War Production Board, he joined Automatic Electric International at the end of World War II, and has served in a consulting engineering capacity in Uruguay, Haiti, Colombia, Venezuela and other Latin-America countries.

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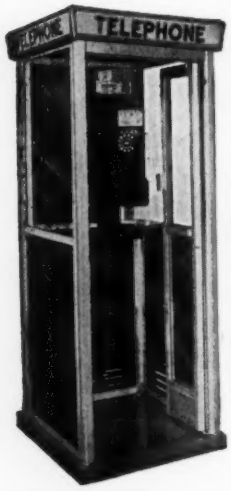

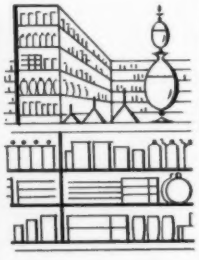

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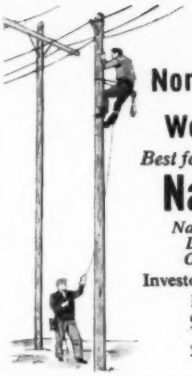

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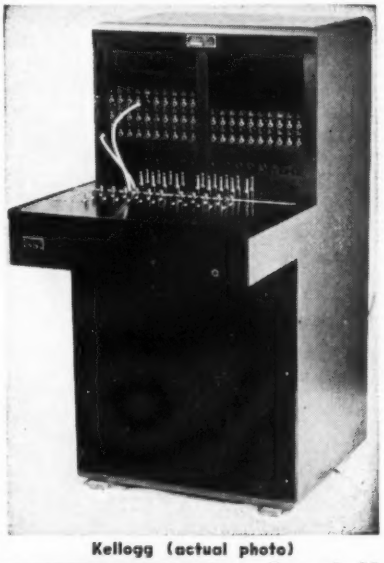

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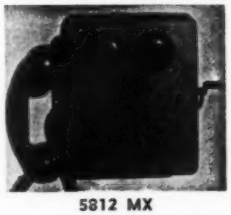

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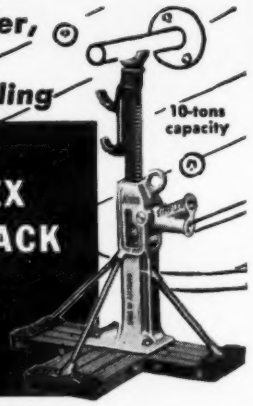

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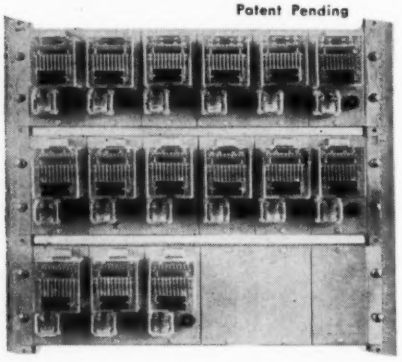

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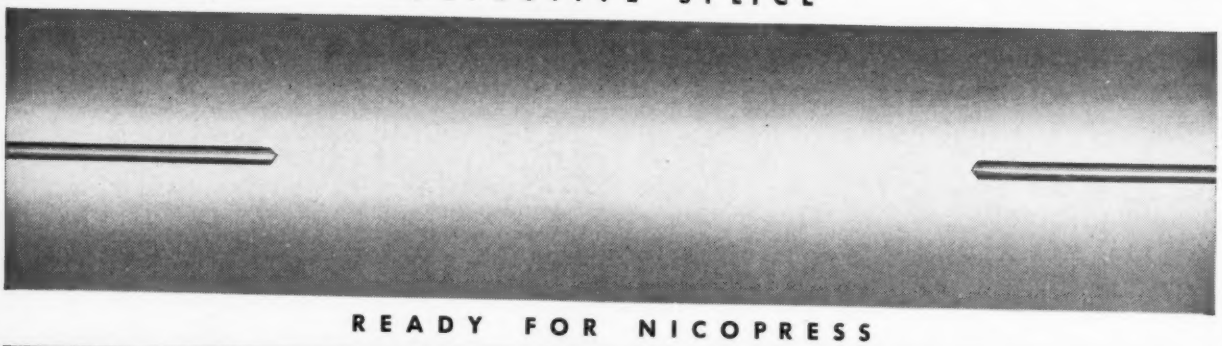

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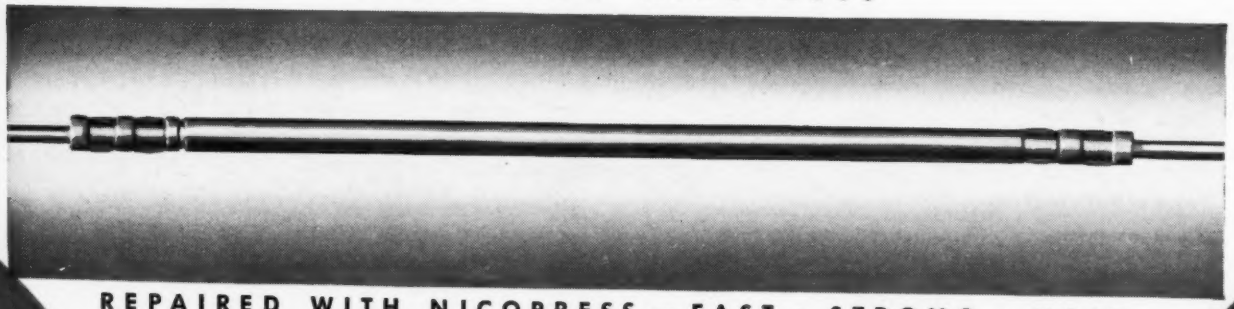

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